



China's Urban Transport Challenge

New mobility services as a Contribution to Sustainable Urban Transport in China?

中国城市交通面临的挑战

在中国，新的出行方式会有助于建设可持续性城市交通吗？



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China's Urban Transport Challenge

Rapidly increasing need for new mobility solutions in cities

对新型城市交通出行解决方案日益迫切的需求

Urbanisation challenge 城市化挑战

600 million people in China live in cities (54.7%).

中国目前有6亿人口在城市生活。

About **1 billion** people will live in China's cities by 2030.

到2030年中国城市人口规模大约会达到10亿人口。



Urban transport challenge 城市交通面临的挑战

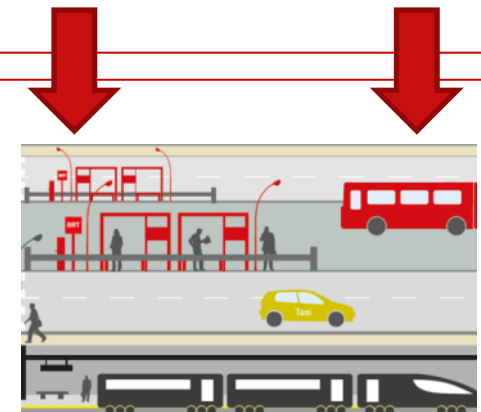
Every day **35,000 cars** are registered in China. Mostly in cities.

在中国，每天约有35000辆汽车登记上牌，其中绝大多数是在城市。

Car ownership in China: **69 cars/1000 residents**

(Beijing: 240 cars/1000 residents, Germany: 665 cars/1000 residents).

全国汽车人均保有量：69 辆/1000 人（北京：240 辆/1000 人）。

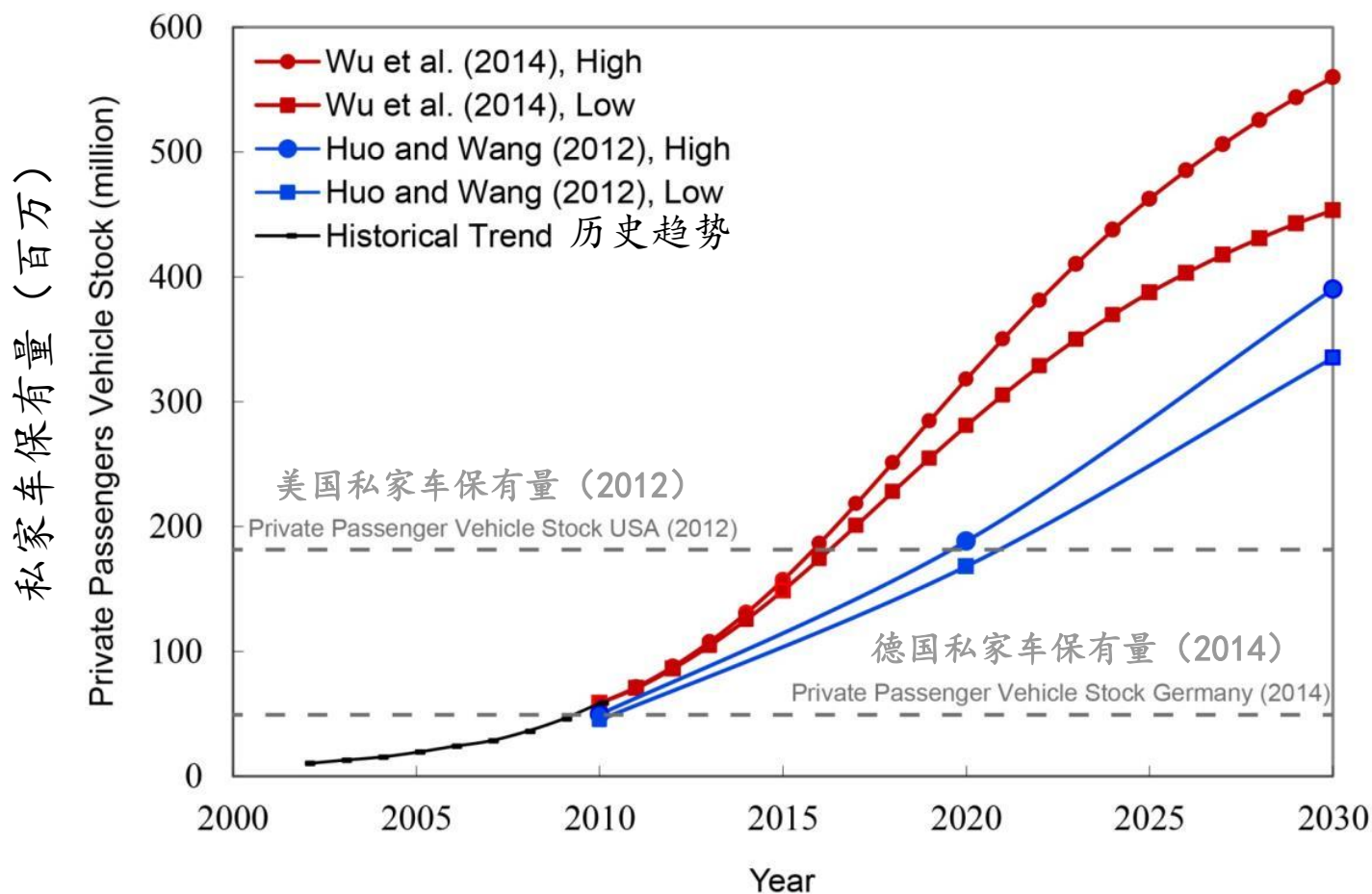




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Projections on motorisation in China

中国机动车增长的预测

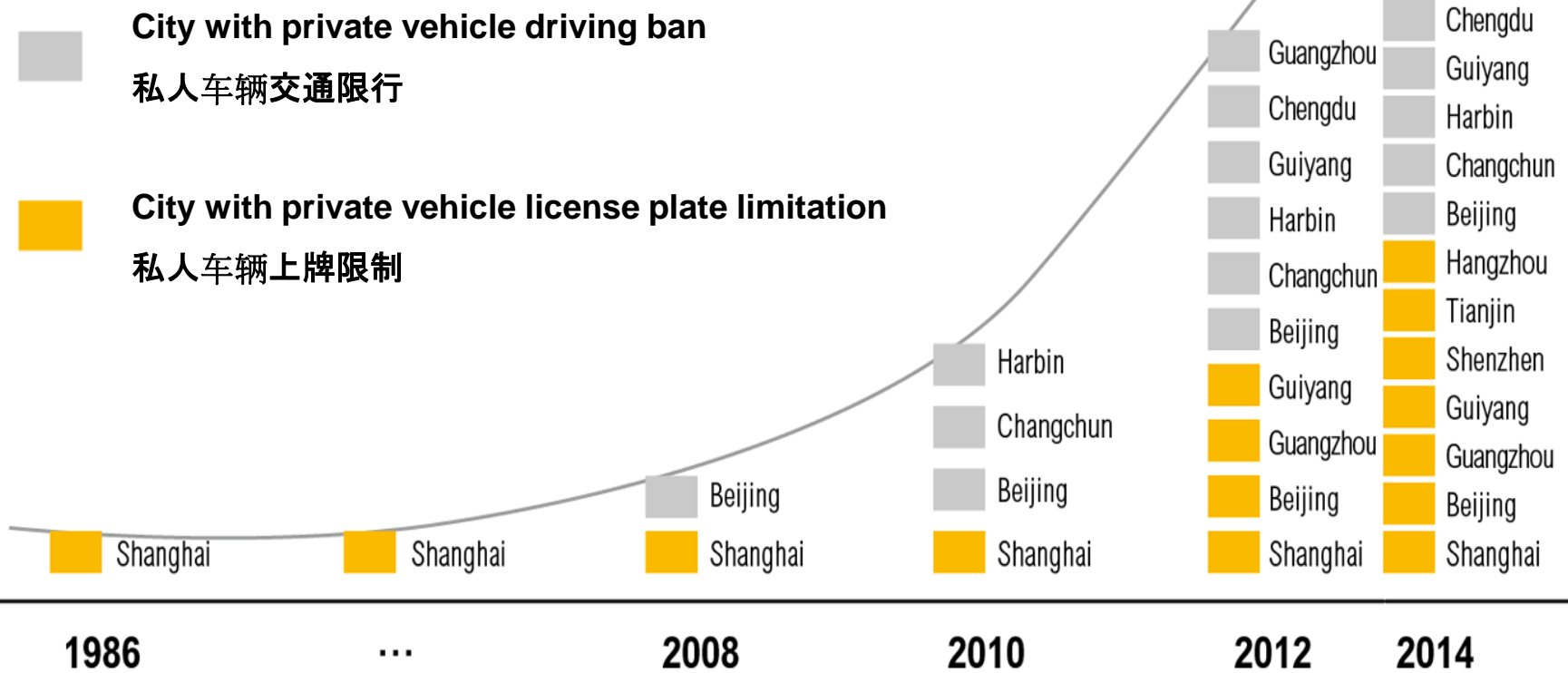




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Regulative/restrictive TDM policies

个人交通出行限制



Source: World Resources Institute (<http://ow.ly/Lj733>)



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Promotion policies for New Energy Vehicles (NEV)

新能源汽车的推动策略

Monetary policies 财政政策

Exemption from **vehicle purchase tax**.
免除汽车购置税

Purchase subsidies from the **national government**.
国家政府提供购置补贴

Additional **local purchase subsidies**.
额外的地方购置补贴

Free of charge license plates in
selected cities (e.g. Shanghai)
在选定的城市（如上海）免除上牌费用

At least **30% NEVs** in public fleets.
最少30%的公车为新能源汽车

Special quota for NEV license plates
in selected cities.
在选定的城市提供特定配额的新能源汽车牌照

Exclusion from driving ban in
selected cities (e.g. Beijing).
在选定的城市（如北京）取消限行

Non-monetary policies 非财政政策






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Trends are reducing the value of owning a car

各种发展趋势导致购置车辆的实用价值下降

-  **Fast Urbanisation**
快速城市化
-  **Deteriorating driving conditions**
驾驶条件恶化
-  **High environmental pressure**
环境压力增长
-  **Tight regulations**
调控政策收紧
-  **Improving public transport**
公共交通的发展
-  **Fast penetration of new technologies**
新科技迅速推广



- **The value of owning and driving a car is deteriorating:** it becomes more expensive, less convenient and less safe

- 购置、驾驶私人车辆的实用价值正在下降：
购置价格上涨，使用不便，安全性下降

- **Public transport continues to improve** with support from the government

- 公共交通事业应该在政府的支持下进一步发展。

- **Alternative mobility trends are emerging:** there is a need to address concerns of car ownership and offer more than public transport

- 替代交通方式涌现；需要考虑到汽车保有量方面的问题，提供公共交通以外的其他解决办法



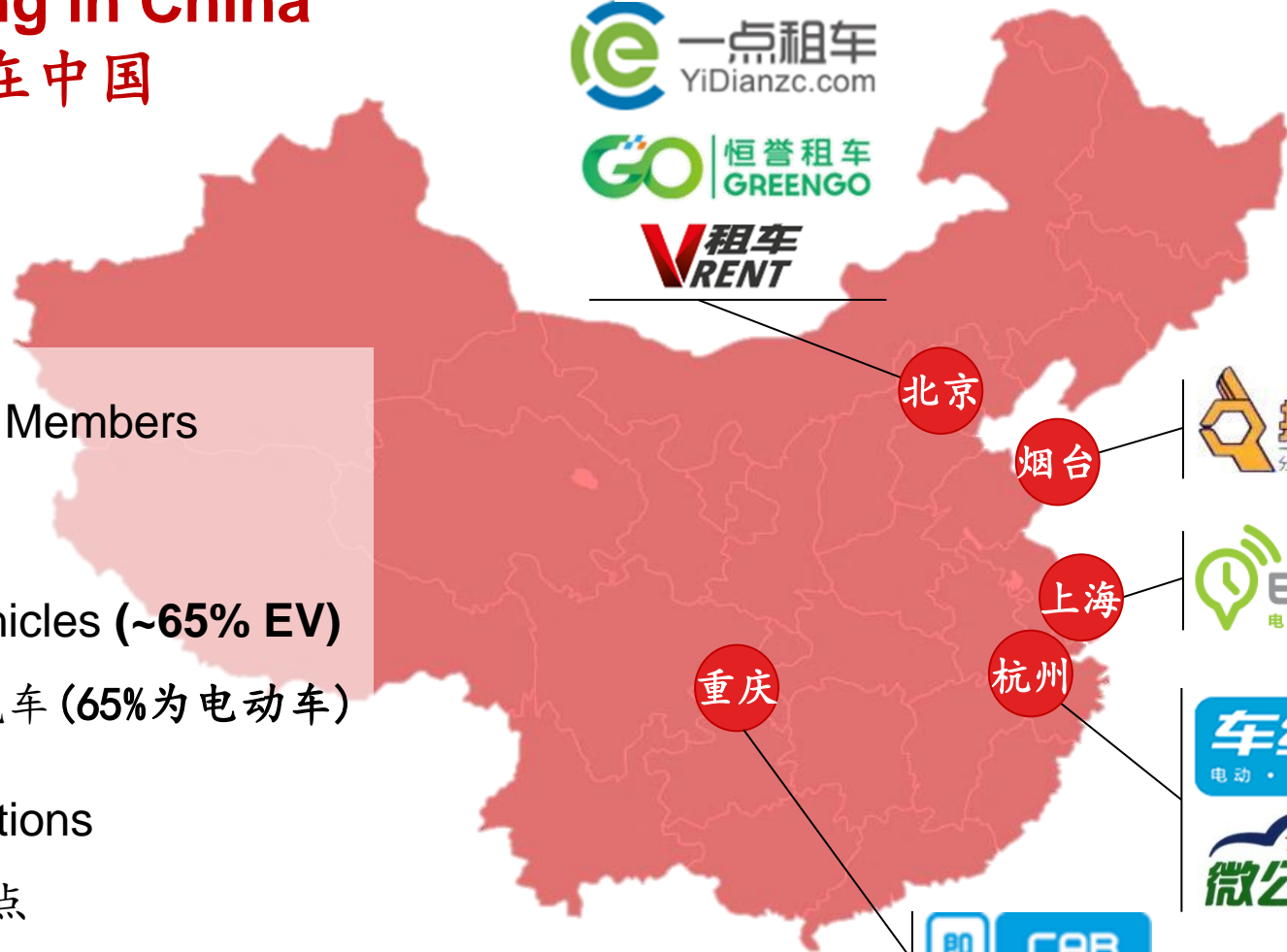
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Carsharing in China

汽车共享在中国



- ▶▶ 400,000+ Members
40+万用户
- ▶▶ 4,665 Vehicles (~65% EV)
5000+辆汽车 (65%为电动车)
- ▶▶ 1,012 Stations
1012个站点





China's Urban Transport Challenge Introducing Carsharing 什么是汽车共享

▶▶ Member-based mobility service

会员制的汽车服务

▶▶ 24/7 on demand, – 即时、

self-service, – 自助、

instant access, – 快速、

short-term – 短期、

and pay-per-use vehicle access – 按使用付费的车辆使用

▶▶ Customers pay an all-inclusive fee (incl. fuel, maintenance, insurance etc.)

用户支付车辆使用过程中产生的全部费用（包括油耗、维护、保险等费用）



Car Jump



CITROËN Multicity



car2go Deutschland GmbH



car2go Deutschland GmbH

Station-Based Carsharing 固定站点汽车共享

- Cars parked on designated carsharing stations
共享车辆需停放在指定共享服务站点。
- Round-trip usage (A to A) 适合往返行程。



30-50 Ø age of users
Ø 用户年龄段



490 cities
490个城市



Ø rental period
Ø 租赁时长

2-4h/小时

Free-Floating Carsharing 自由流动式汽车共享

- Cars parked on public parking spaces within a defined service area
共享车辆可停放在公共停车区域，但需要到指定的服务区域进行维护。
- One-way usage (A to B) 适合单程用途。



20-30 Ø age of users
Ø 用户年龄段



13 cities
13个城市



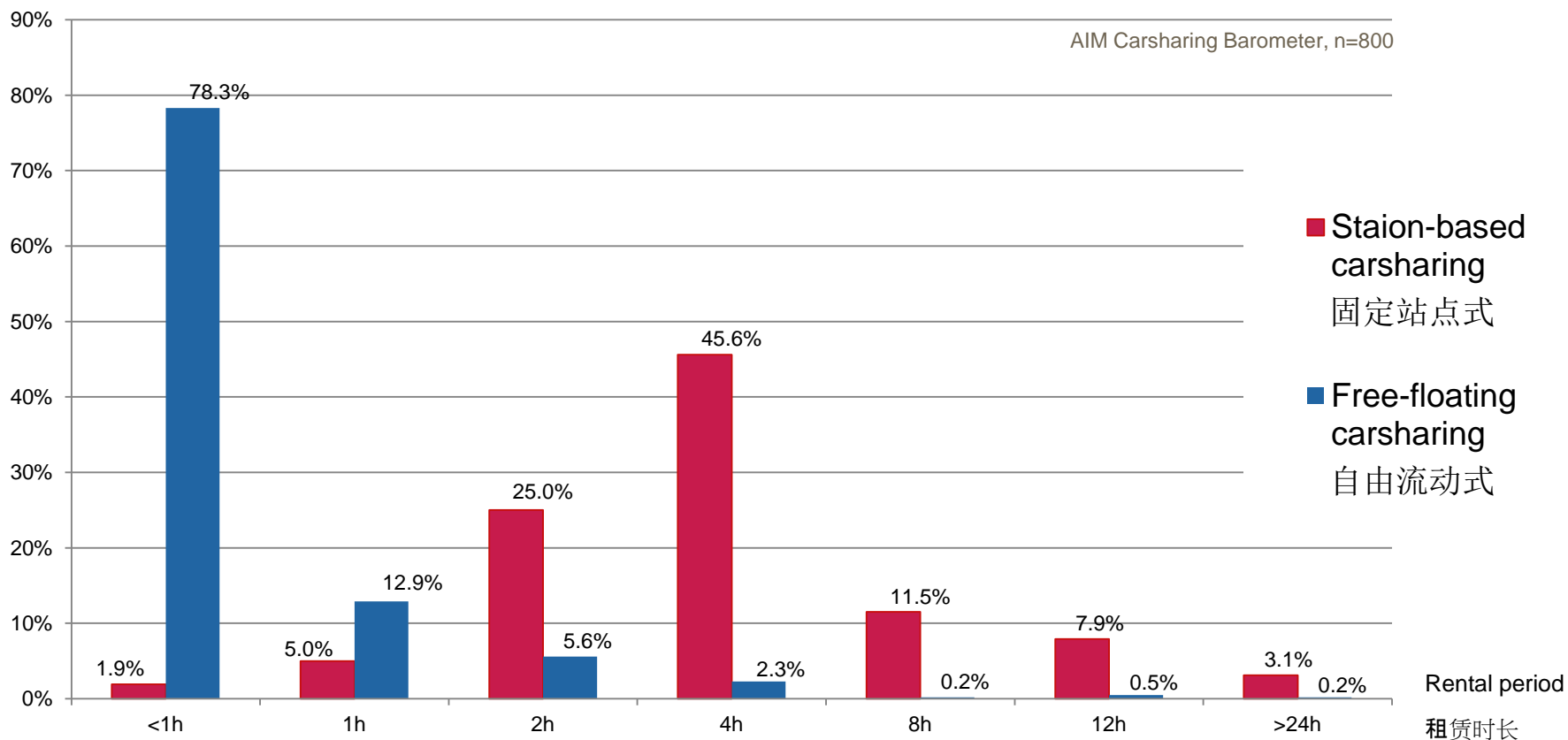
Ø trip distance
Ø 行驶里程

8km/公里



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Station-Based OR Free-Floating? 固定站点 还是自由流动式?

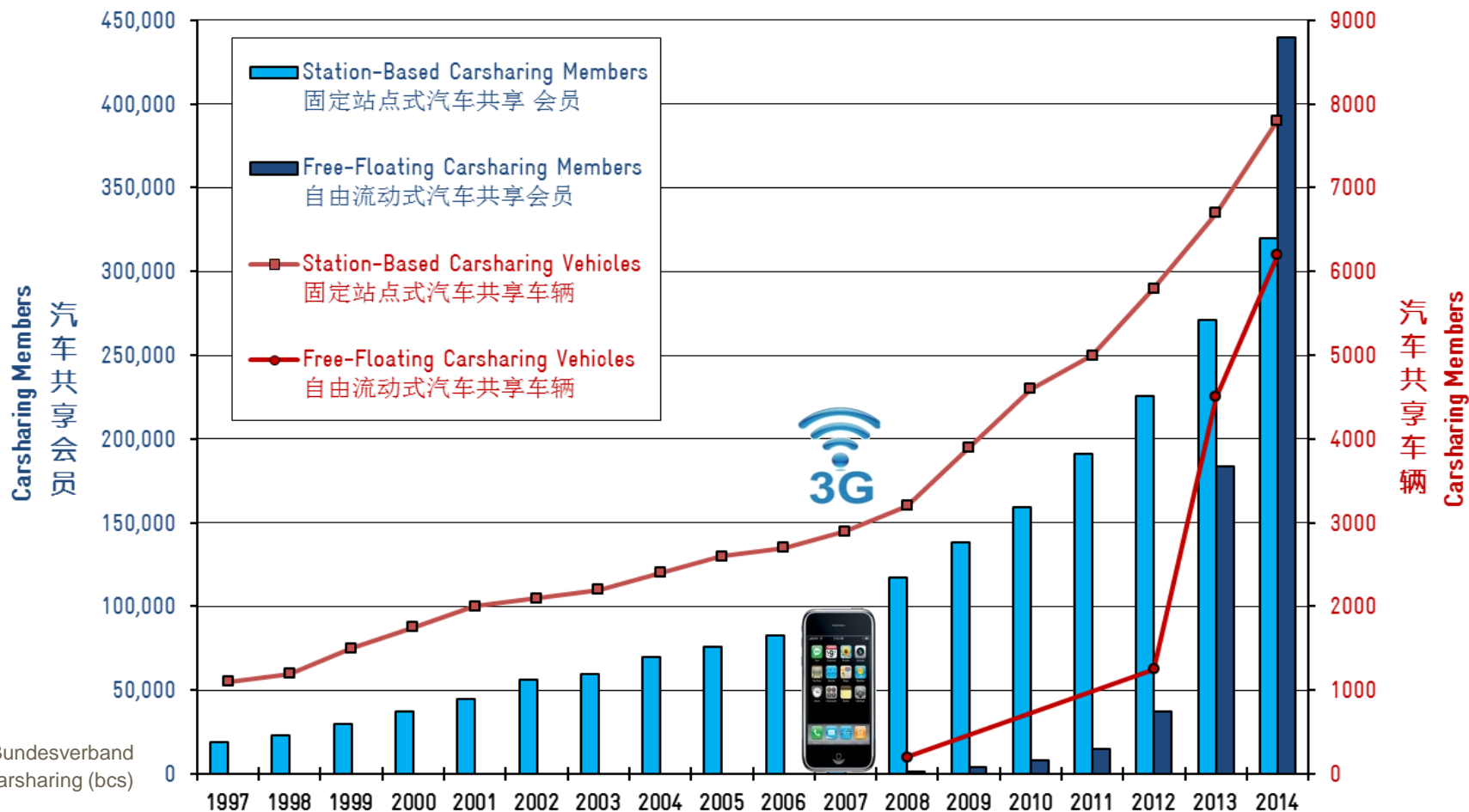


Station-Based AND Free-Floating! 两种模式同时需要!



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Carsharing Development in Germany 汽车共享在德国的发展

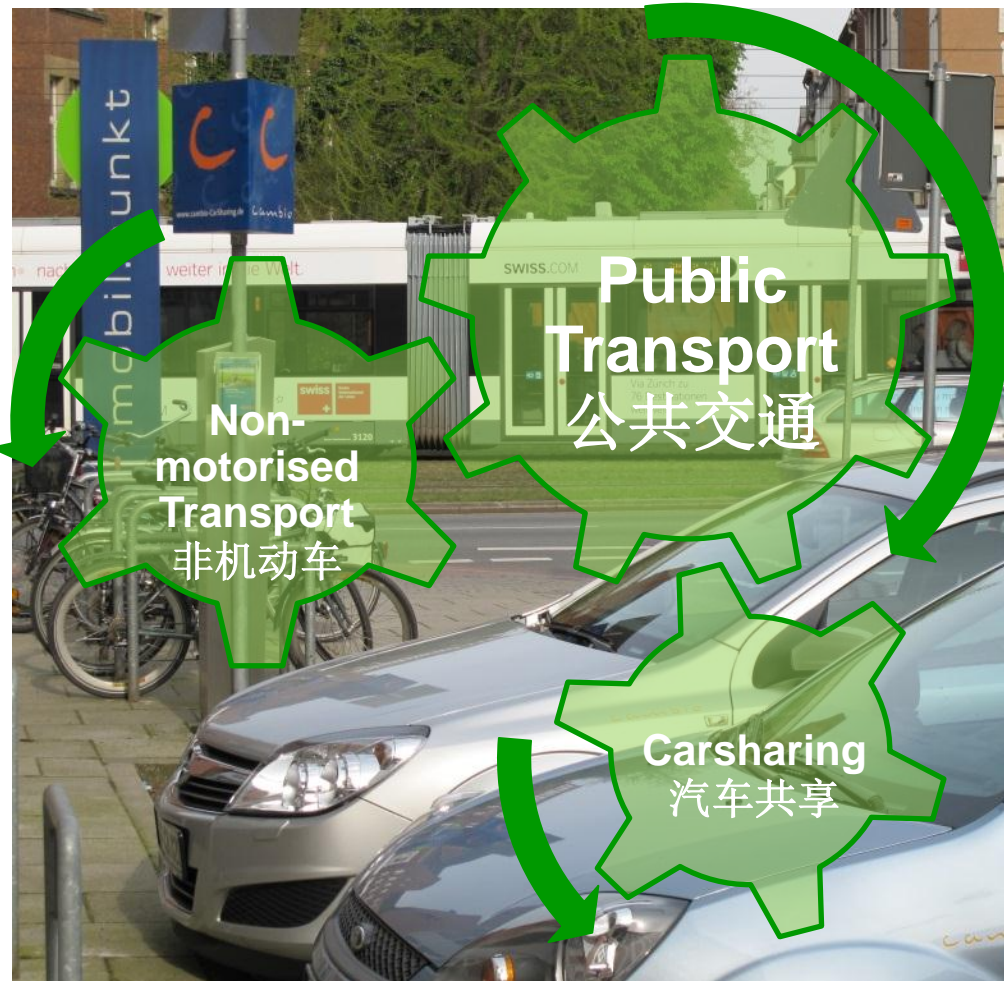


Data: Bundesverband Carsharing (bcs)



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Carsharing benefits 汽车共享服务的收益



In Europe, carsharing users: 在欧洲，汽车共享用户：

- ▶ avoid/postpone car ownership
避免或推迟购买小汽车
23 – 26%
- ▶ sell private cars
出售已拥有小汽车
16 – 34%
- ▶ reduce vehicle kilometers travelled
减少小汽车行驶里程
28 – 45%

**1 carsharing vehicle can replace
4 – 11 private cars**
一辆汽车共享汽车可取代4-11辆私人小汽车

Source: Cohen, Adam P.; Shaheen, Susan A. (2006): Worldwide Carsharing Growth: An International Comparison. Berkeley, USA



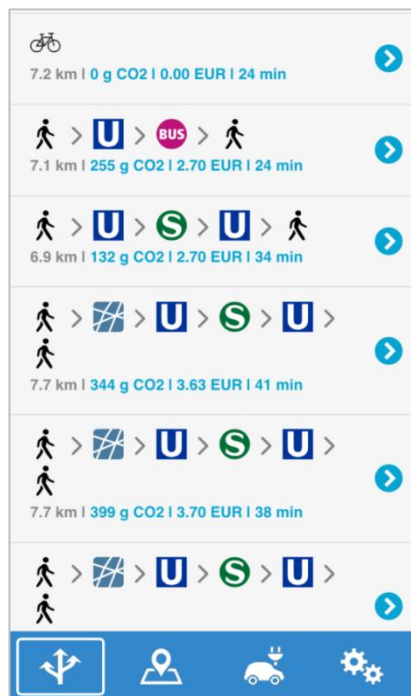
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Carsharing as a Component of Multimodal Transport

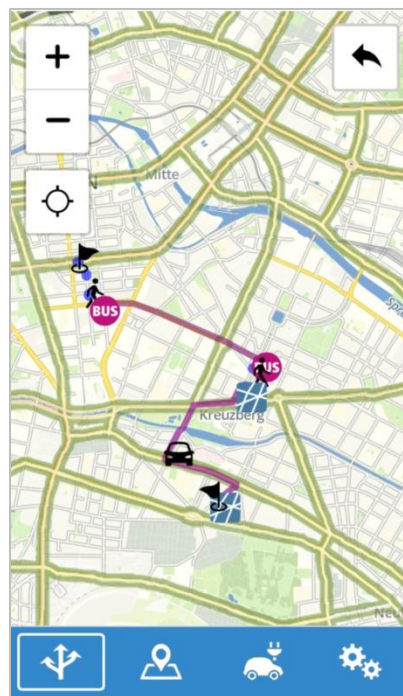
汽车共享作为多模式出行组成部分



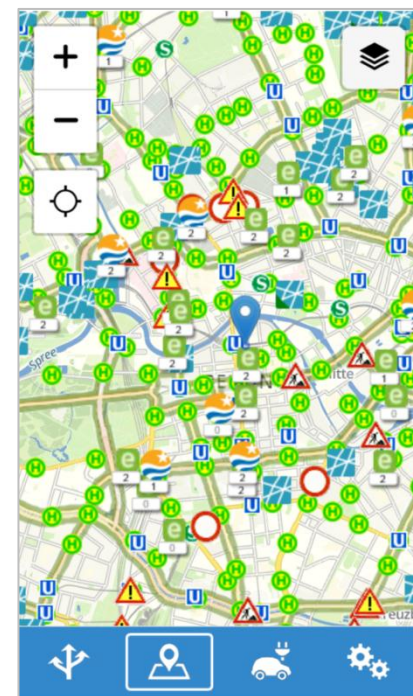
Customer-oriented,
individual routing
顾客导向型，个体路线



Transparent
in-app ticketing
清晰透明的应用内售
票系统



GPS navigation
GPS导航



Real-time Information
实时信息



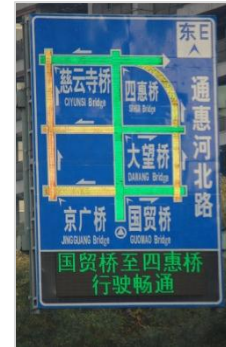
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Moving towards smart mobility in China

向智慧出行发展



**Combined
Ticketing
通用票制**



**Real-time traffic
information
实时交通信息**

(E-)Carsharing



(电动)汽车共享



**Inter- and multimodal
routing 多式联运路径**



China's Urban Transport Challenge

Moving towards smart mobility in China

向智慧出行发展

3G 8:33 PM 99%

Combined Ticketing 通用票制

Real-time traffic information 实时交通信息

(E-)Carsharing (电动)汽车共享

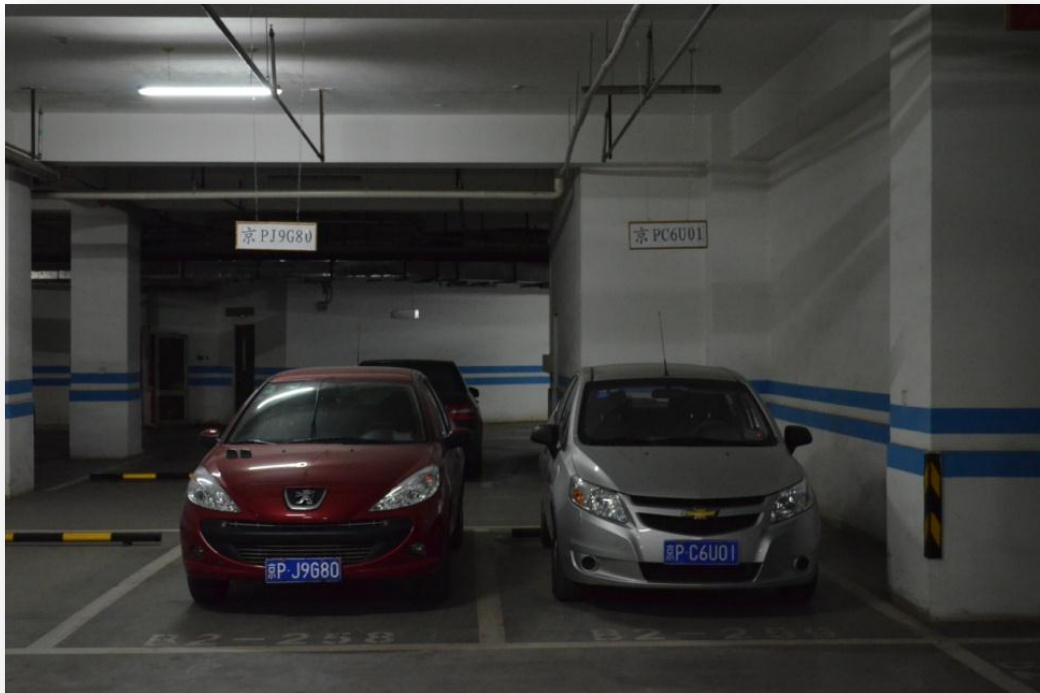
Inter- and multimodal routing 多式联运路径



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Challenges for carsharing in China

汽车共享服务在中国面临挑战



Challenge 挑战



Solution? 答案?



China's Urban Transport Challenge Quintessence 要点和精华

1

New mobility concepts made **dramatic progress** over the last five years.
新的出行概念在最近五年获得引人注目的进步。

2

Urban environmental and **transport challenges/policies** will drive rapid business innovation which may overtake the processes in the western hemisphere.
城市的环境、交通所面临的挑战及相关政策会驱动商业上的高速创新，可能会超越西方的发展进度。

3

Electrification will play a key role in the future development of carsharing in China.
电气化将会在中国的汽车共享发展中扮演关键的角色。

4

Parking is one of the major challenges, especially for infrastructure dependent mobility services.
泊车是一项主要的挑战，尤其针对依赖于基础设施的出行服务。

5

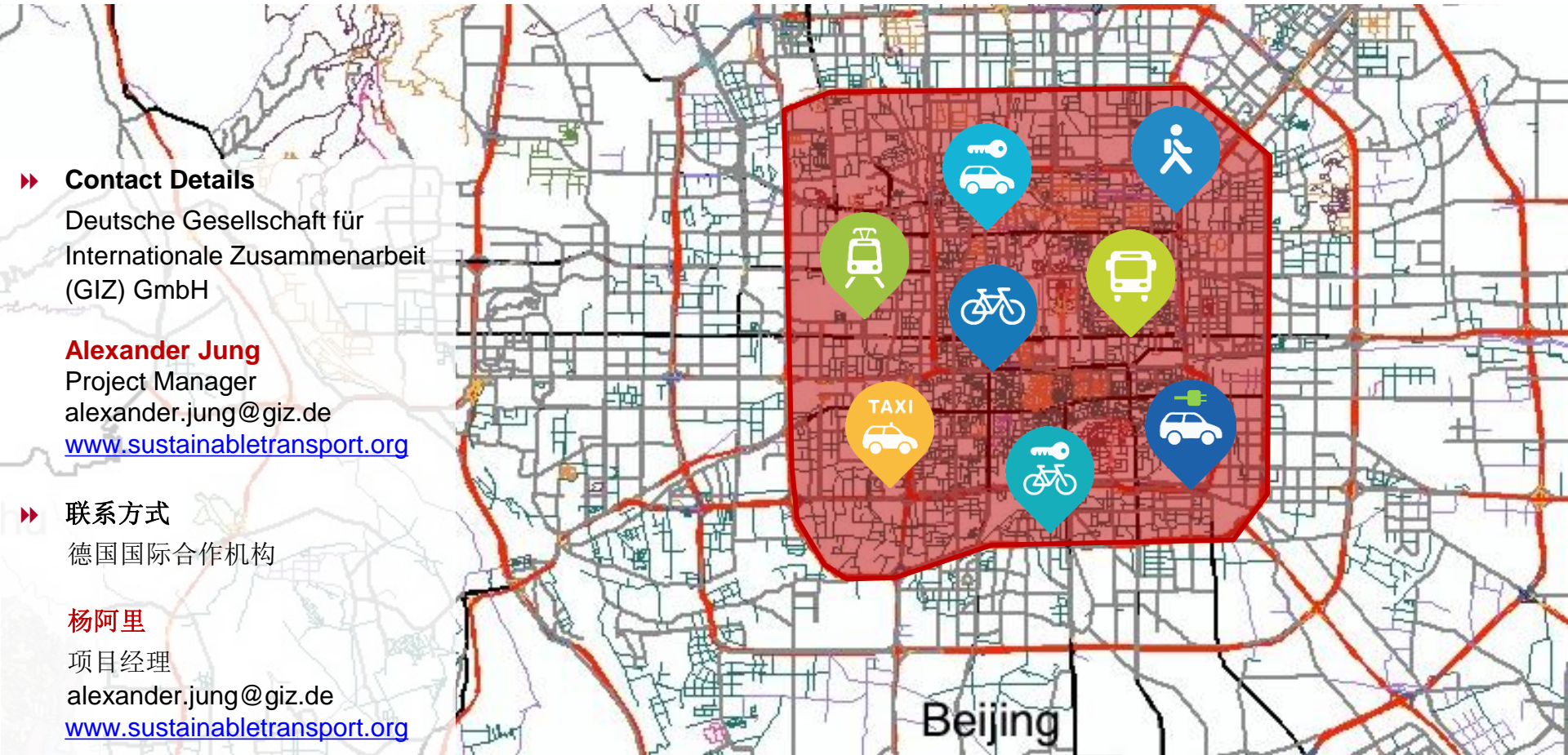
Dynamic market development can overrun governmental authorities and increase the **business risk for operators**.
动态的市场发展可能会超过政府相关部门的限度，并使**运营商的业务风险增加**。

6

How can an urban mobility scenario look like in future?
一个合适的城市出行解决方案会是怎样的？



Food for thought... 的设想 ...



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