SMART STRATEGIES FOR PRIVATE VEHICLE OWNERSHIP AND USAGE IN CHENGDU
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Smart Strategies for Private Vehicle Ownership and Usage in Chengdu

is a transportation project under the World Resources Institute’s Sustainable and Livable Cities Program, funded by the Caterpillar Foundation. The aim of this project is to offer detailed policy solutions for Chengdu for traffic congestion, which has become a growing problem because of the rise in the number of private cars.

This study draws on the experience of Chinese and international cities, such as Beijing, Shanghai, Guangzhou, Tokyo, Singapore, Hong Kong, London, and New York, to suggest steps by which Chengdu could adopt a Transportation Demand Management (TDM) approach. The proposed TDM measures that can be implemented in three phases, starting with strict, regulatory measures and moving towards market-based ones. This is designed to encourage a “shift” in public thinking from driving their own cars to taking public transport.

Chengdu in 2012

- GDP: 813.89 billion CNY
- Population: 14.18 million
- Urbanization Rate: 60.2%
- Vehicle Ownership (exclude motorcycles): 2.24 million
Lessons from Beijing

- Surprisingly, congestion causes people to rely even more on their own cars;

- If initial TDM measures are weak, then vehicle numbers will continue to rise despite controls;

- Beijing uses a license plate lottery to control the overall increase in vehicle numbers (quota of 240,000 new vehicles per year since 2011; and 150,000 new vehicles per year from 2014); but because people's attitudes towards driving have not changed much, congestion is still a big problem.

<table>
<thead>
<tr>
<th></th>
<th>2011</th>
<th>2012</th>
<th>CHANGE</th>
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<tbody>
<tr>
<td>Smooth</td>
<td>14H10M</td>
<td>14H15M</td>
<td>+5M</td>
</tr>
<tr>
<td>Smooth (medium)</td>
<td>6H35M</td>
<td>6H5M</td>
<td>-30M</td>
</tr>
<tr>
<td>Congestion (light)</td>
<td>2H20M</td>
<td>2H30M</td>
<td>+10M</td>
</tr>
<tr>
<td>Congestion (medium)</td>
<td>40M</td>
<td>50M</td>
<td>+10M</td>
</tr>
<tr>
<td>Congestion (heavy)</td>
<td>15M</td>
<td>20M</td>
<td>+5M</td>
</tr>
</tbody>
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Lessons from Singapore

Mode Share in Singapore

- Public Transit 47%
- Private Vehicle 28%
- NMT 20%
- Other modes 5%

Vehicle Development in Singapore (1960-2010)

Singapore has introduced a series of TDMs since 1975, which include the controlling measures of vehicle ownership and usage, as well as the congestion charge, etc.
- Tough policies were introduced Singapore at an early stage, including a series of economic and regulatory instruments to control car ownership and usage;

- Strict control of private vehicles and the development of the public transport system, has reduced dependence on private cars;

- The reality of Singapore’s small size and the fact that its automobile industry is not one of its pillar industries, has meant that it has continued to use tough TDM measures to keep a tight hold over vehicle numbers.

**Lessons from Shanghai**

- Shanghai’s early introduction of license plate auctions to control the growth in vehicle numbers has greatly slowed its motorization rate, which is now at a lower level than Chengdu’s;

- The improvement of the public transport system provides alternatives to private cars in a city’s motorization process;

- Part of the revenue made from the auctioning of license plates is used to improve public transport.

**Use of Auction Revenue, Shanghai (1994-2007)**

![Pie chart showing the use of auction revenue in Shanghai]

- Other use: 18%
- Road Improvement: 12%
- Subway Construction: 34%
- Zhonghuan Project: 38%

**Lessons from Hong Kong**

- Tough, comprehensive policies were introduced early on. Hong Kong mainly used economic leverage tools to control car ownership and usage, preventing a rapid growth in vehicle numbers, so that even today Hong Kong has a lower level of motorization than Chengdu;

- TDM measures have kept up with public transport development, particularly rail transport and land-use that prioritizes rail transport; gradually making public transport the dominant mode of transport in Hong Kong.
Vehicle Development in Hong Kong (1960-2010)

Hong Kong has increased the vehicle registration fee by 15% of the vehicle price, and increased the vehicle plate annual fee by 3 times as before. (1974)

Lessons from Tokyo

- Car ownership took off after the Metro developed; urban residents became used to taking the Commuter Rail at an early stage;

- From a planning perspective, because Tokyo prioritizes rail transport-orientated land-use pattern, rail transport has maintained its dominant position;

- Increase the cost of car usage (instead of car ownership), finding the win-win solution for both environment and auto industry;

- “Proof of parking” for vehicle purchase.

Tokyo: Relationship of rail transport development and population growth
Lessons from London and New York

- After a stage where private cars dominated transport, the cities ultimately returned to a development path in which public transport became dominant. However, this has proved to be both costly and time-consuming;

- In implementing its Congestion Charge and other TDM measures, London focused on planning and implementation, and emphasized public transport, prioritized public transport in land-use, and improved conditions for non-motorized transport.
OUR IMPACT

Since 2002, the EMBARQ Network has worked globally with city and national governments, strategic partners, and the private sector to achieve on-the-ground change and influence policy at the local, national and international levels.

OUR MISSION

We catalyze and help implement environmentally, socially and financially sustainable urban transport and urban development solutions to improve quality of life in cities.