Bike-sharing and the City

2017 White Paper

2017.4.12
Bike-sharing: Making Cities More People-friendly

This white paper is the first comprehensive nationwide study on bikesharing in China, and its impact on urban transport, traffic, and lifestyles. It was developed by Mobike with the support of the China New Urbanization Research Institute, which was established by the National Development and Reform Commission, and Tsinghua University, and published in association with the Beijing Tsinghua Tong Heng Planning and Design Institute.

Through quantitative and qualitative analysis of Mobike’s vast trove of travel data, as well as the results of a survey of 100,000 people across 36 cities in China, this report analyses how bikesharing is changing our cities. This white paper examines bikesharing’s influence on the urban environment and on improving standards of living, and its role in curbing pollution and saving energy. The study also looks at how individual users are taking advantage of the bikesharing revolution, and how their lifestyles are being transformed.

This research shows how, in less than a year, intelligent bikesharing has been hugely successful in bringing bikes back to China’s cities. In fact, this study has found that bikesharing is now the fourth most popular mode of transport after cars, buses, and the subway.
1. Bringing Bikes Back to the City
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A History of Urban Transport Trends in China

The Walking Era
- Late 19th Century
  The first “foreign horses” appeared in China

The Cycling Era
- 1920-1940s
  Bicycle as a symbol of identity
- 1980s-1990s
  “The Kingdom of Bicycles”: One bike per person
- 1950s-1970s
  A bike, a watch, a sewing machine, and a radio – signs of family status

The Auto Era
- 2000s
  Rise of cars, decline of bikes

The Personal Era
- April 2017
  First bikesharing white paper
- 2016
  Smart bikesharing launches, bringing bikes back to cities
Singapore

Smart shared bikes are now available in more than 50 cities across more than 20 provinces and special autonomous regions (SARs) in China, and in Singapore.

1. Bringing Bikes Back to The City

- Bike-sharing is growing incredibly quickly, and already covers half of China
1. Bringing Bikes Back to The City

**User Profiles**

- 70%+ of users are in their 20s to 40s.
- 1 out of 3 users cycle for leisure and exercise.
- Users in their teens, 20s and 30s most frequently travel to workplaces and schools.
- Users in their 60s and 70s most often ride to restaurants and shops.
- Approximately 1 in 5 users take bikes to make subway and bus connections.

*Source: Mobike research*
1. Bringing Bikes Back to The City

In terms of total trips, male users take more trips than female users.

- **Male College Students** are more active cyclists on weekends.
- **Men under 32** are the largest user demographic.
- **Male Retirees** ride the longest distance.
- **Male Retirees** cycle at the fastest speed.
- **Mature Female Professionals** take more trips on working days.
- **Female Homemakers** are the smallest user demographic.
- **Young Working Ladies** travel the shortest distances.
- **Female College Students** cycle the slowest.

*Source: Mobike research*
2. How Cycling is Transforming The City
Bikesharing has more than doubled the usage of bicycles.

Before bikesharing:
- Car: 29.8%
- Bus + Train: 31.2%
- Bicycle: 5.5%

After bikesharing:
- Car: 26.6%
- Bus + Train: 30.7%
- Bicycle: 11.6%

Cycling has increased in popularity by over 100%

% refers to the percentage change after the introduction of bikesharing. Data refers to Mobike users only.
Car trips have been more than halved

Our survey of bikesharing users indicates a significant decrease in car usage after bikesharing was introduced, users reported that the number of trips by car (including trips by private cars, taxi, and car-hailing apps) decreased by 55%!

% refers to the percentage change after the introduction of bikesharing. Data refers to Mobike users only.
Illegal auto-rickshaw usage is down 53%

After the introduction of bikesharing, users reported a decline in auto-rickshaw trips of 53%.

The Story at One Subway Station in Beijing

Spring 2016, just before the emergence of bike-sharing...

...there were over 200 auto-rickshaws
...drivers were each completing 40+ trips per day
...drivers were earning up to 200RMB per day

But after the growth in popularity of shared bikes...

...just 50-60 auto-rickshaws remain, a decrease of almost 70%
...trips per driver per day decrease by over a dozen trips
...70% of unlicensed drivers have changed jobs

% refers to the percentage change after the introduction of bikesharing. Data refers to Mobike users only.
Bikesharing enhances connectivity to buses and subway stations

Connecting with buses:
- In Beijing, 81% of trips start around a bus station.
- In Shanghai, that number is 90%.

Connecting with the subway:
- In Beijing, 44% of trips start near a subway station.
- In Shanghai, it’s 51%.

Data refers to trips started within 300m of a bus station and 500m of a subway station.
In Beijing, for trips shorter than 5km, **92.9%** of trips are quicker by shared bike + public transport; for trips longer than 5km, **23.7%** of trips are faster by shared bike + public transport.

In Shanghai, for trips shorter than 5km **91.9%** of trips are quicker by shared bike + public transport; for trips longer than 5km, **43.4%** of trips are faster by shared bike + public transport.
2: How Cycling is Transforming The City

- Mobiking by moonlight

**Beijing**
Sanlitun is a late-night hotspot, where the party doesn’t stop

**Shanghai**
People’s Square drawsfoodies late into the night

**Guangzhou**
Guangzhou Tower draws visitors all night

**Shenzhen**
Luohu District never sleeps
Pollution has almost no impact on rider activity.

As bikesharing becomes an increasingly common transport choice, heavy pollution does not impact trip numbers.

Source: Mobike research
Bikesharing shrinks urban carbon footprints

Mobikers in China have travelled more than 2.5 billion km –
the equivalent of going to the moon and back 3,300 times

This equates to:

- Reducing carbon emissions by 540,000 tonnes
- Taking 170,000 cars off the road for one year
- Planting 30 million trees
- Eliminating 4.5 billion PM2.5 particles

Source: Mobike research
Bikesharing saves energy

Mobikers in China have travelled more than 2.5 billion km –
the equivalent of going to the moon and back 3,300 times

This equates to:

- Saving 460 million litres of gas
- Saving 29 million tons of oil
- Saving 32 days of production from China’s biggest oilfield in Daqing

Source: Mobike research
Bikesharing saves urban spaces

By reducing the amount of space needed for cars and other vehicles, bike-sharing frees up enough urban space to build 600,000 homes.

In Beijing, bikesharing frees up space that is 5 times the size of the Olympic (Bird’s Nest) Stadium.

In Shenzhen, the space saved by bikesharing is 2.5 times the size of the Window on the World park.

In Shanghai, the space saved is 15 times the size of People’s Park.
Bikesharing data makes cities smarter

Data science supports smarter urban planning...
Analysis of cycling data can help cities address traffic blackspots, improve the urban environment and better utilize space.

...and helps cities plan smarter transport networks
Our data can also be used to improve connectivity between the bikesharing network and public transport options, creating a more efficient and environmentally friendly transport network.
3 : Building Better Cities Together
3. Building Better Cities Together

- **Bikesharing complements public transport systems**

  One **20** square meter smart Mobike Preferred Location (MPL) is sufficient to operate **400+** bikes every day

Through Mobike’s efforts, more than **10,000** new bike parking locations have been installed around the country.

**Shanghai** ranks **1st** in terms of new bike parking locations added.

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**Source:** Mobike research
3. Building Better Cities Together

- Mobilising our user base and leveraging our technology for smarter bike allocation

**Bonus Bikes**

By rewarding users who take bikes to or from specific GPS-defined locations (e.g. from a low-demand to a high-demand area) we make bike allocation smarter and more efficient.

During peak periods, over **200** people are reallocating bikes **every second**.

Through location-based technology and machine learning, allocation and distribution efficiency increased **20%** over one month.

*Source: Mobike data*
Shenzhen never sleeps but Shanghai rises early

Cycling has doubled in popularity in less than a year, becoming the fourth most popular way to get around

Retired gentlemen cycle further than anyone else!

Pollution has a minimal impact on bike-sharing activity

The space saved through bike-sharing could fit 600,000 homes!

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