Bike-sharing and the City

2017 White Paper

2017.4.12

Introduction

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

1920-1940s
Bicycle as a symbol of identify

The Cycling Era

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

1. Bringing Bikes Back to The City

- **Bike-sharing is growing incredibly quickly, and already covers half of China**

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

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

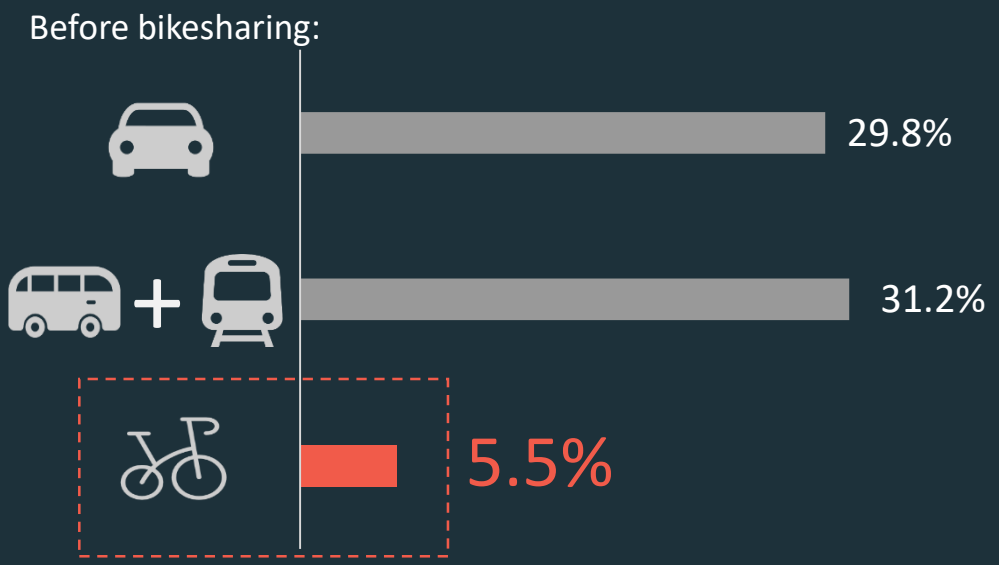
Female College Students
cycle the slowest

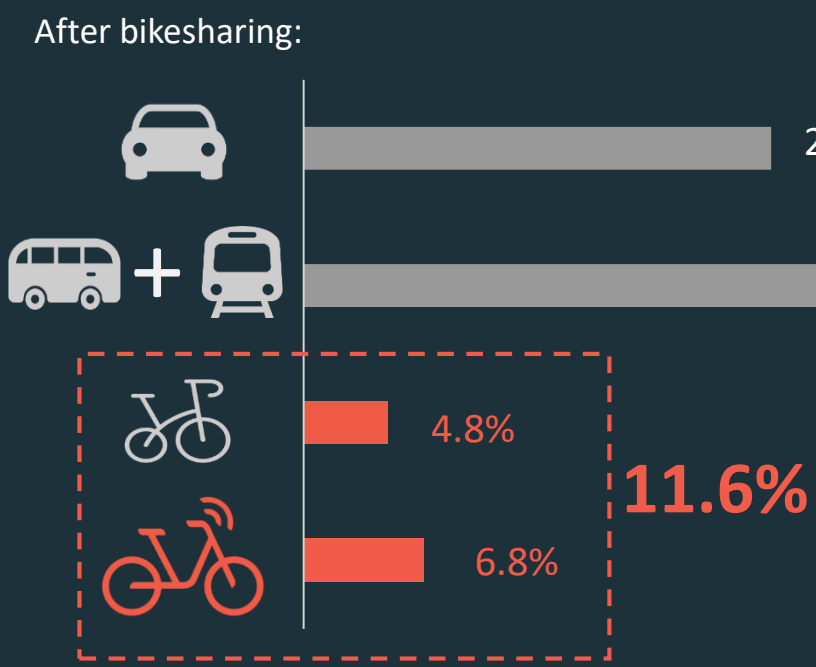
Source: Mobike research

2. How Cycling is Transforming The City

2：How Cycling is Transforming The City

Bikesharing has more than doubled the usage of bicycles



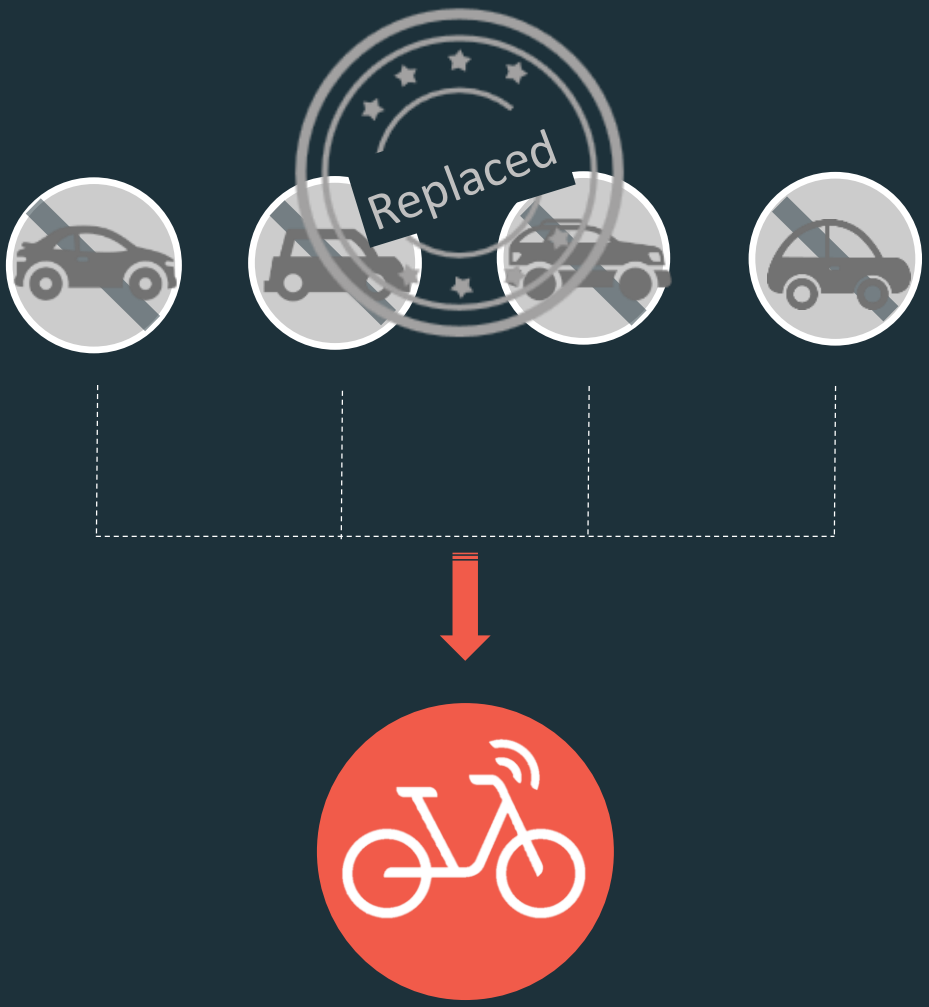


Cycling has increased in popularity by over 100%

% refers to the percentage change after the introduction of bikesharing. Data refers to Mobike users only

2：How Cycling is Transforming The City

Car trips have been more than halved

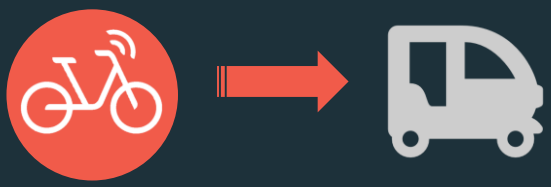


Our survey of bikesharing users indicates a **significant decrease** in car usage after bikesharing was introduced，users reported that the number of trips by car (including trips by private cars, taxi, and car-hailing apps) decreased by **55%!**

% refers to the percentage change after the introduction of bikesharing. Data refers to Mobike users only

2：How Cycling is Transforming the City

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

2：How Cycling is Transforming the City

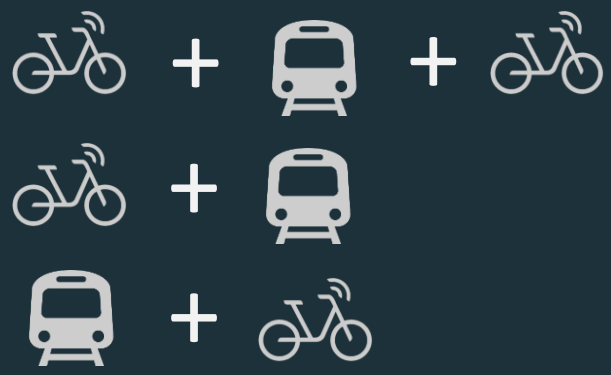
Bikesharing enhances connectivity to buses and subway stations

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

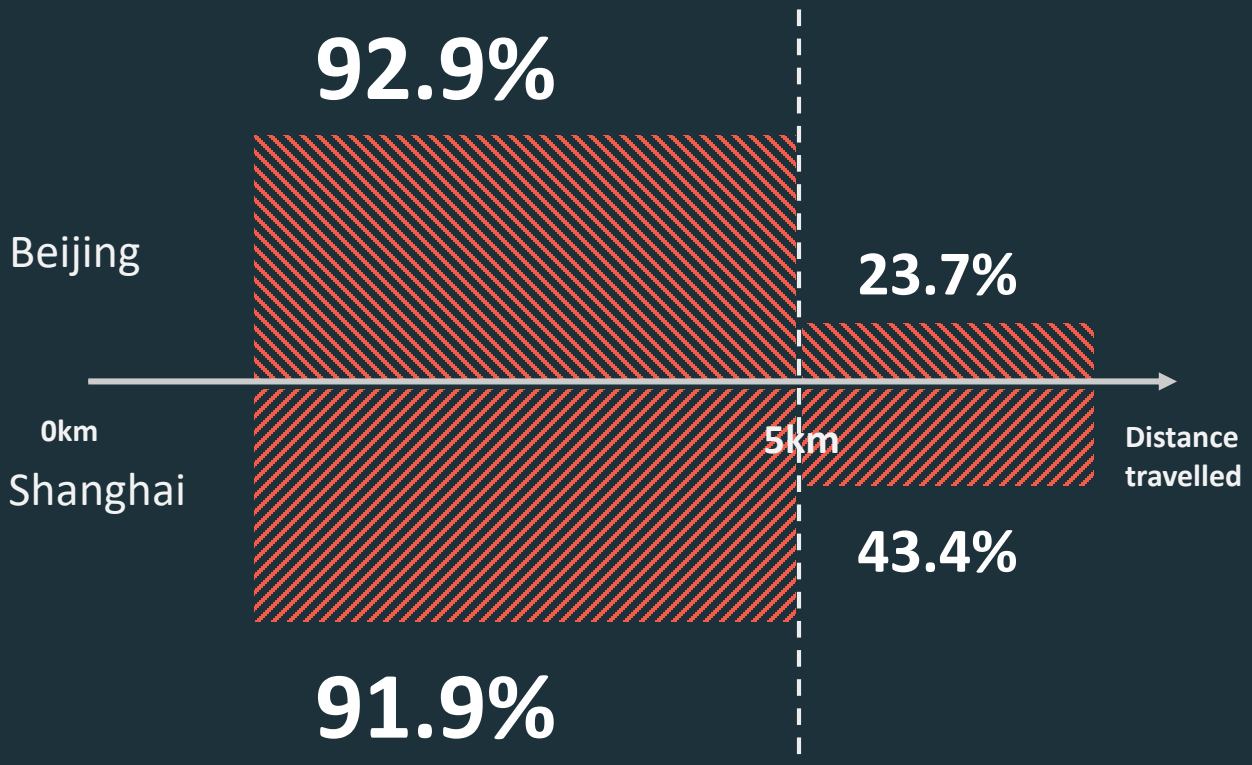
In Shanghai, it's 51%

Data refers to trips started within 300m of a bus station and 500m of a subway station

2：How Cycling is Transforming The City

Bikesharing + public transport is the most efficient way to get around

Shared bikes + public transport at peak periods vs cars



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.

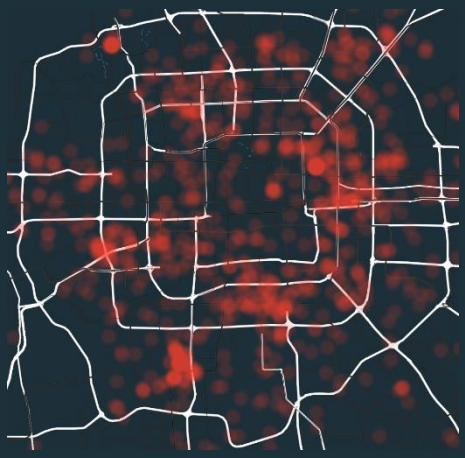
In Shanghai, for trips shorter than 5km **91.9%** of trips are quicker by shared bike + public transport; for trips longer than 5km, **43.4%** of trips are faster by shared bike + public transport.

2: How Cycling is Transforming The City

- **Mobiking by moonlight**

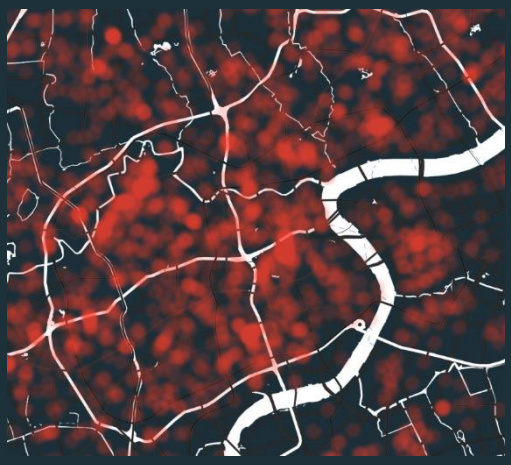
Beijing

Sanlitun is a late-night hotspot, where the party doesn't stop



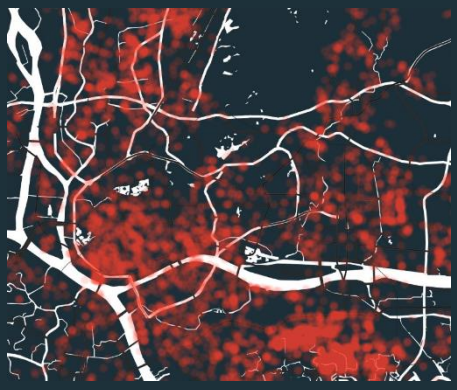
Shanghai

People's Square draws foodies late into the night



Guangzhou

Guangzhou Tower draws visitors all night

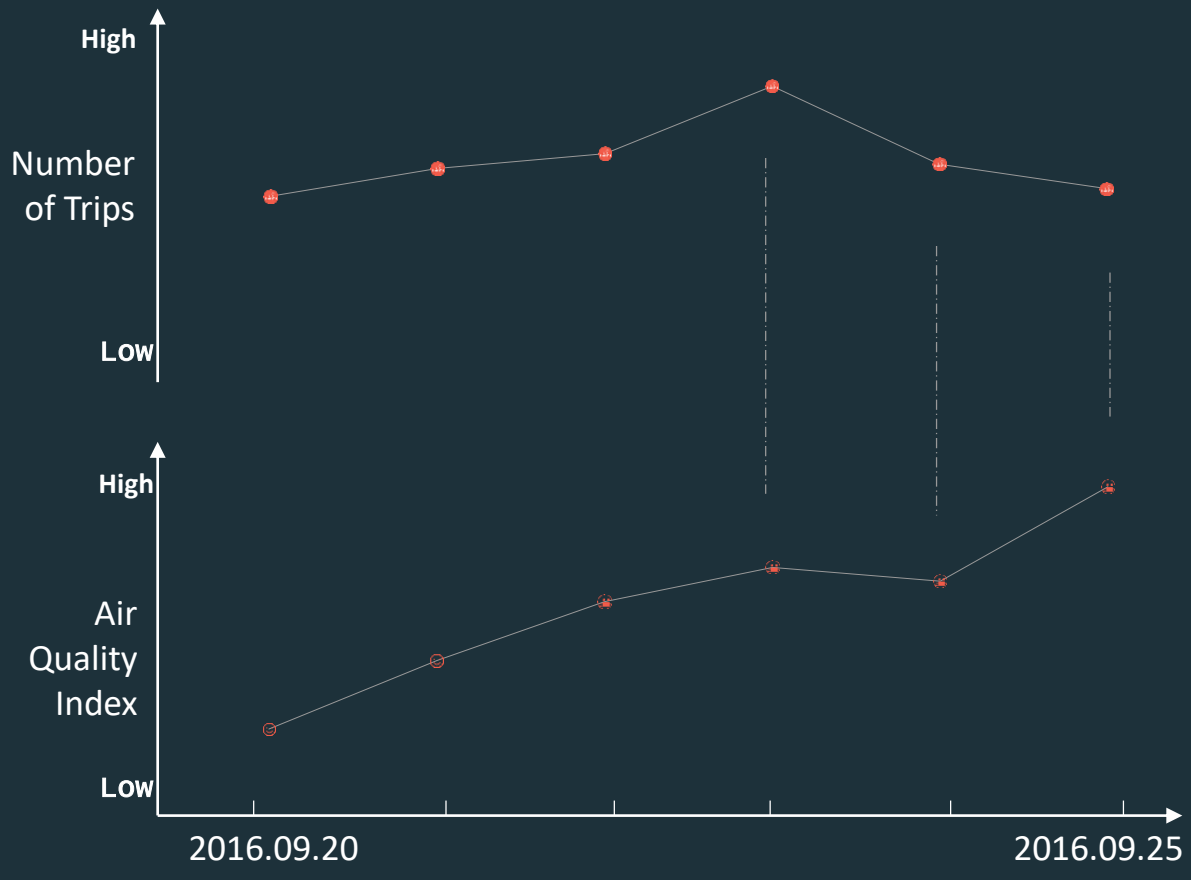


Shenzhen

Luohu District never sleeps

2: How Cycling is Transforming The City

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

2：How Cycling is Transforming The City

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

2：How Cycling is Transforming The City

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

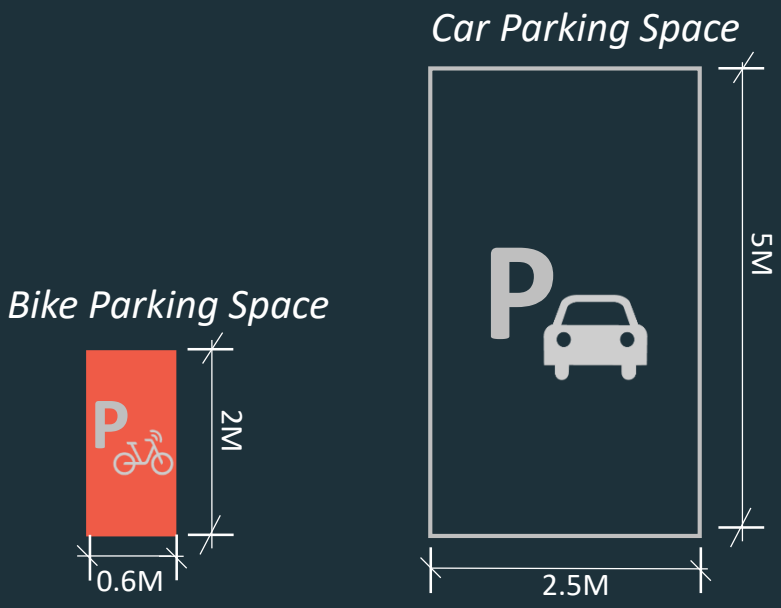
Source: Mobike research

2：How Cycling is Transforming The City

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



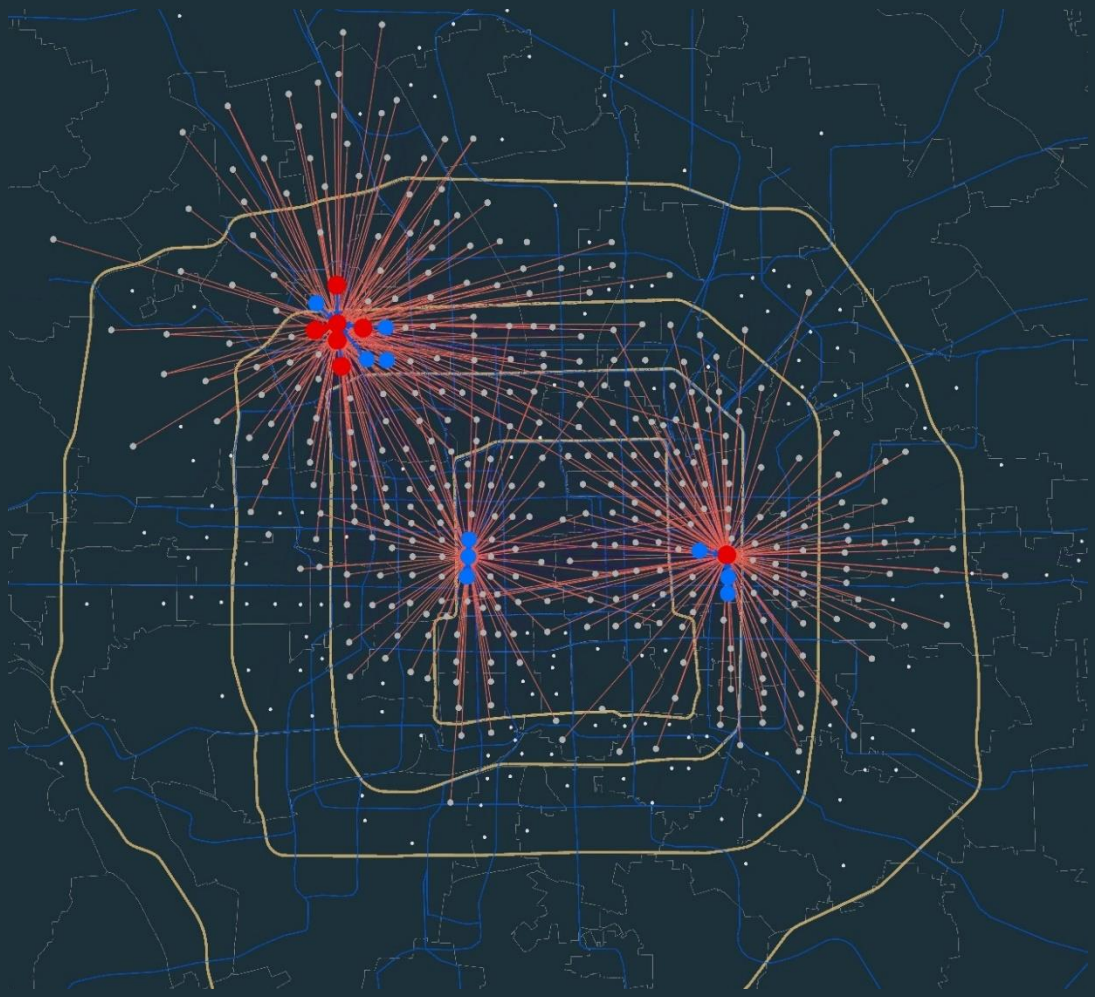
In Beijing, bikesharing frees up space that is **5 times** the size of the Olympic (Bird's Nest) Stadium

In Shenzhen, the space saved by bikesharing **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

2：How Cycling is Transforming The City

Bikesharing data makes cities smarter



Analysis of transport hotspots in Beijing

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

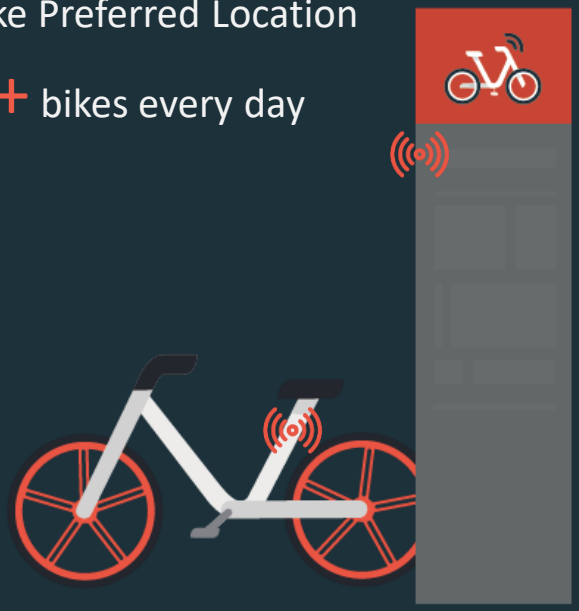
Our data can also be used to improve connectivity between the bikesharing network and public transport options, creating a more efficient and environmentally friendly transport network.

3：Building Better Cities Together

3. Building Better Cities Together

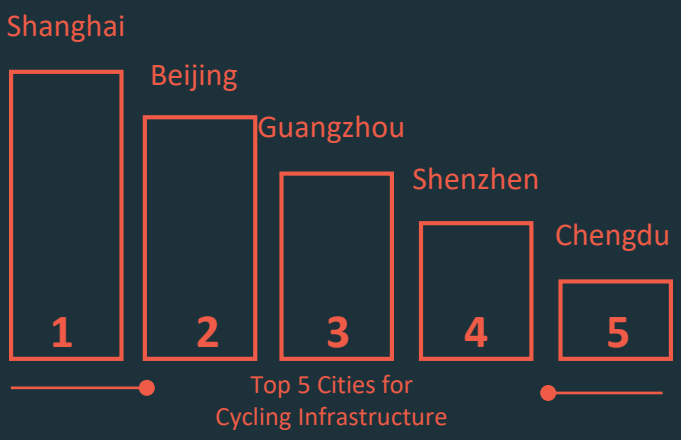
Bikesharing complements public transport systems

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



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

Pollution has a minimal
impact on bikeksharing
activity

Retired gentlemen cycle further
than anyone else!

The space saved through bikesharing
could fit 600,000 homes!

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