mobike
摩拜单车

UNWGIS
2018

Mobike, Bring Bike Back to City

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Nov 20, 2018

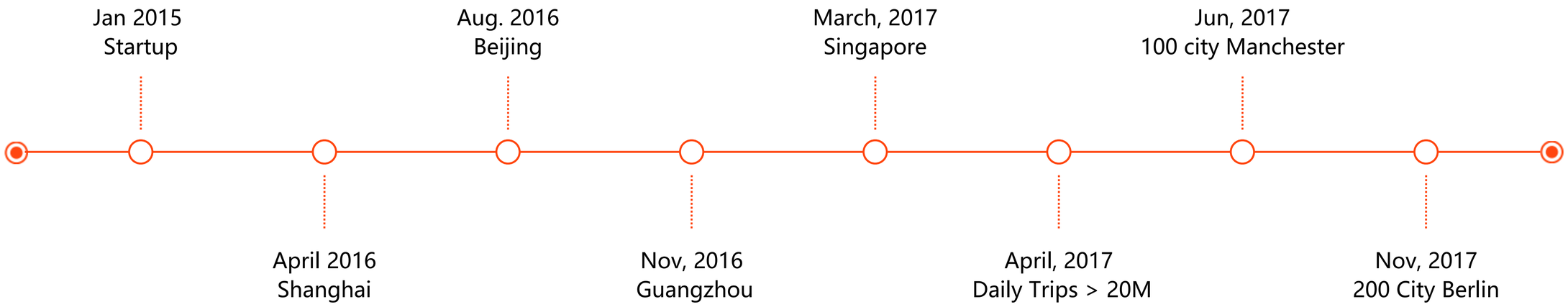
Mobike is

"A Gift for the world"
-- Hu Weiwei

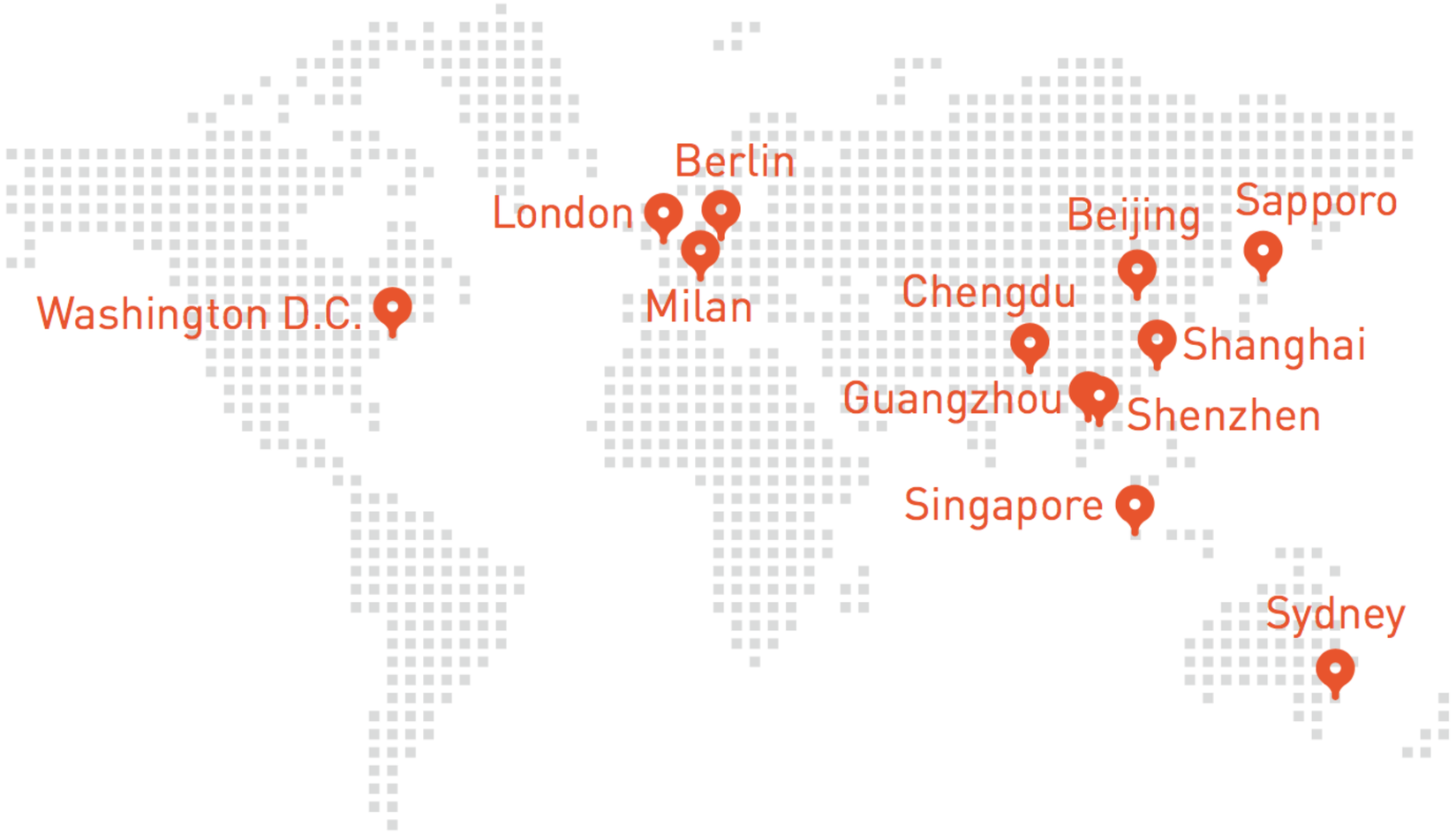
"A Genius Innovation of China"
-- Wang Xing

Leader in Dock-less Public Sharing Bicycle

The Growth of Mobike



The Growth of Mobike



From an idea to popular traffic mode

Operating

8 million bikes

in more than

200 cities

of

12 countries

Major Transportation Method in Daily Life

Daily Trip

Metro ~ 6 M
Bus ~ 4 M
Bike. ~ 3 M

Mobike Display at Beijing TOCC

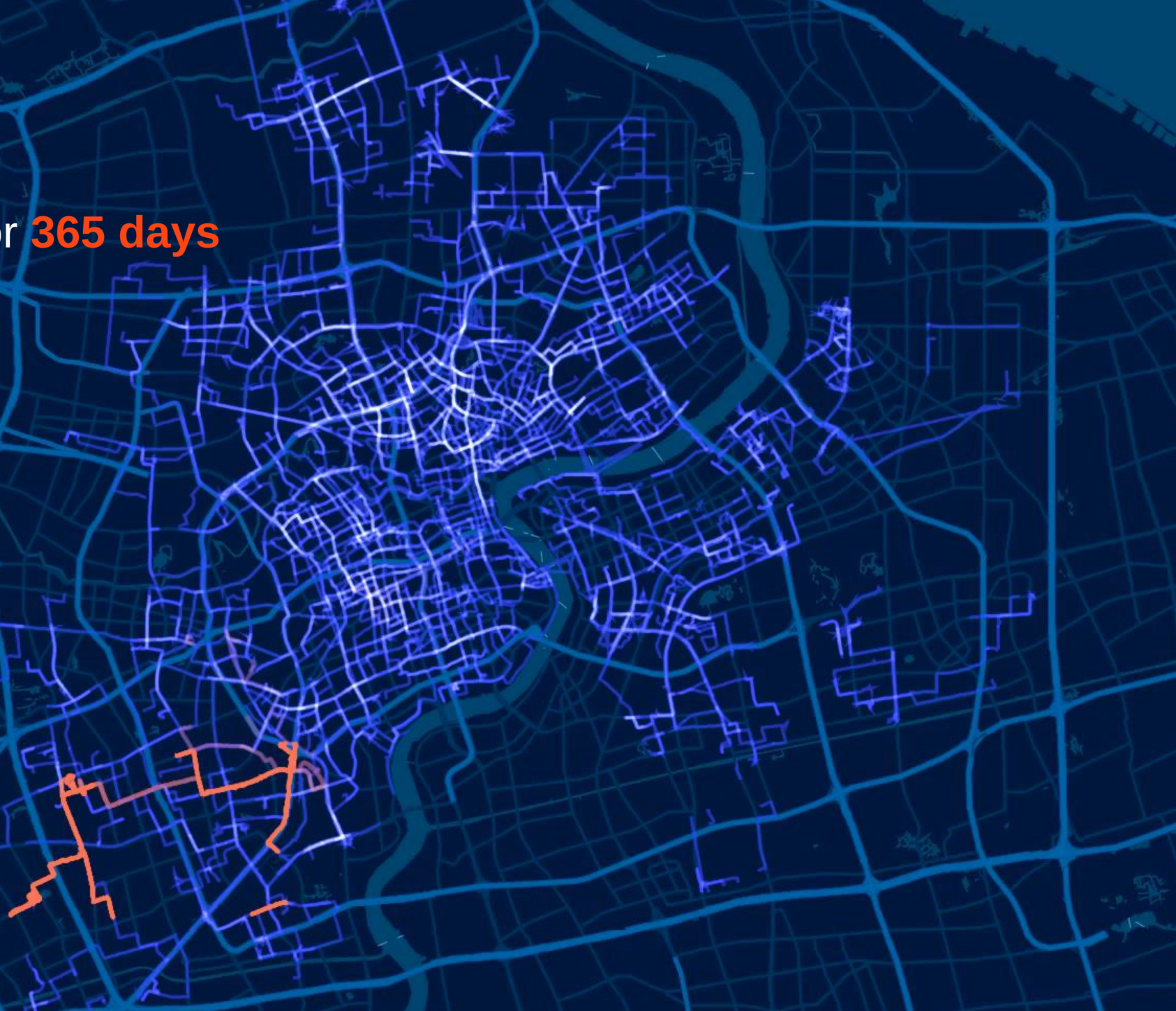
摩拜单车No.0210019836

无故障运行**365天**
Trouble-free operation for **365 days**

被**1975个**不同的人解锁
Unlocked by 1975 users

骑行了**2021次**
2021 riding trips

跨越距离**4850公里**
Covering **4850 km**



Trip Density 3D Visulation

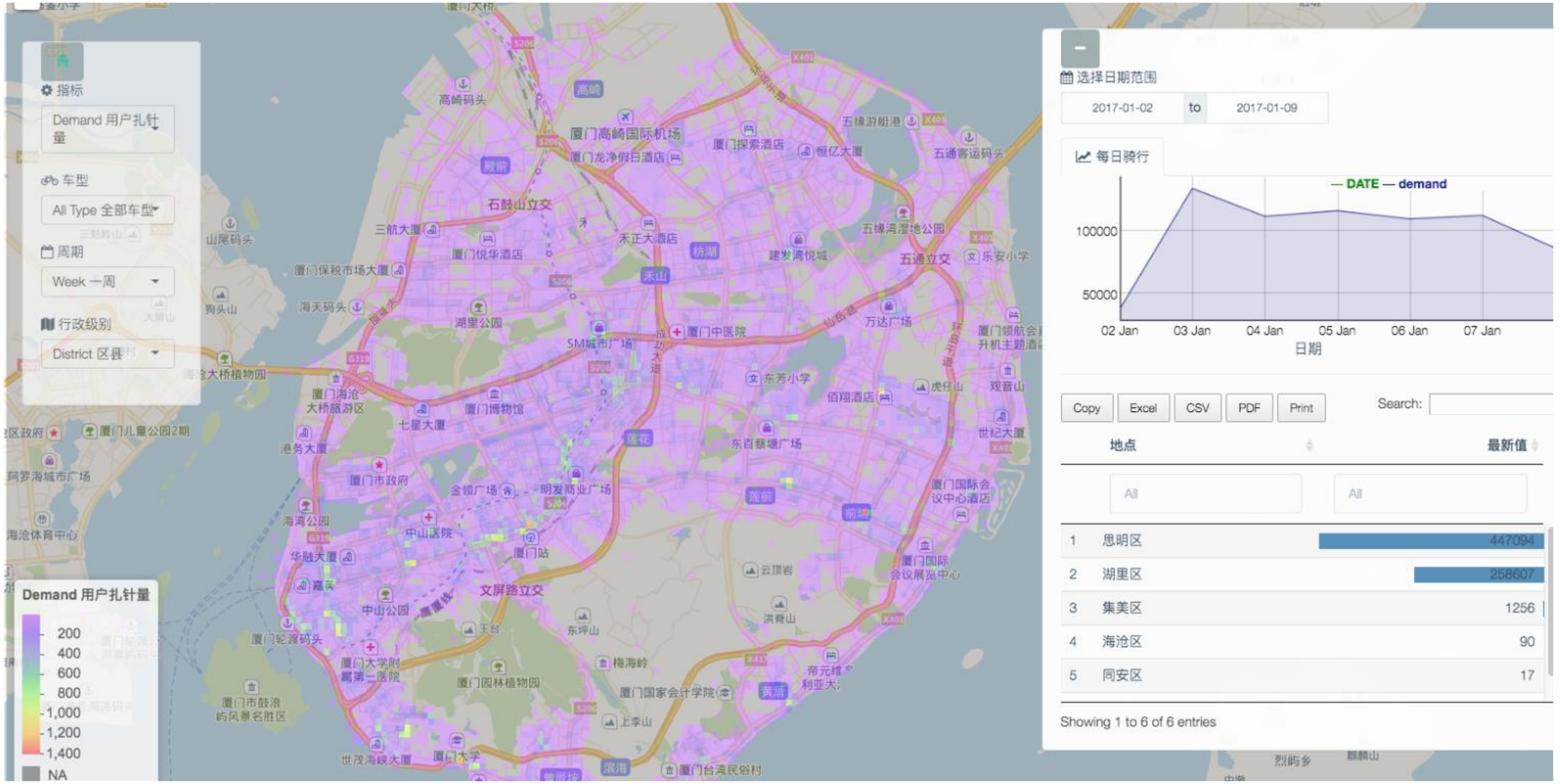
世界资源研究所 WORLD RESOURCES INSTITUTE | mobike

Singapore

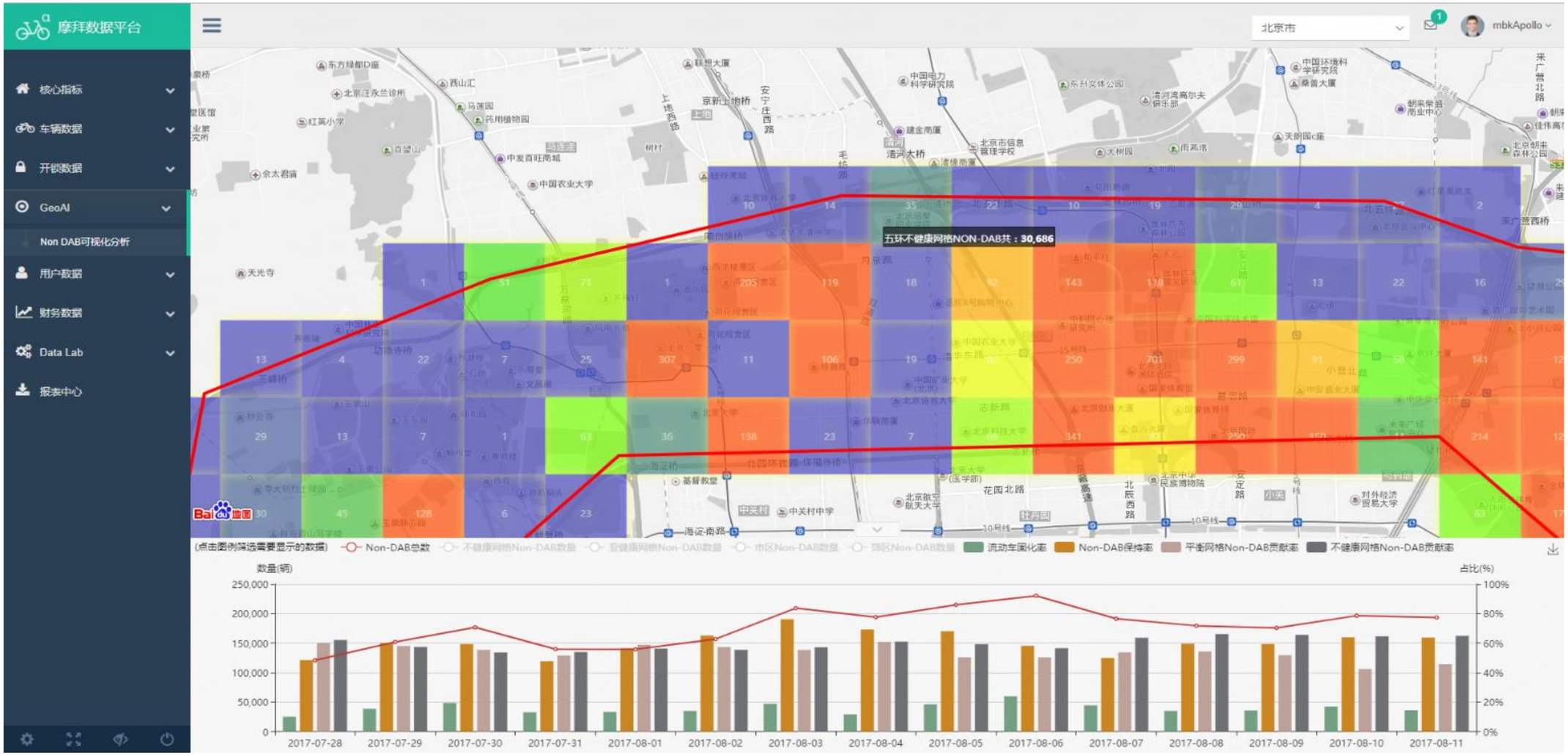
Height of bar indicates greater popularity of destination

Technique
(related to GIS)

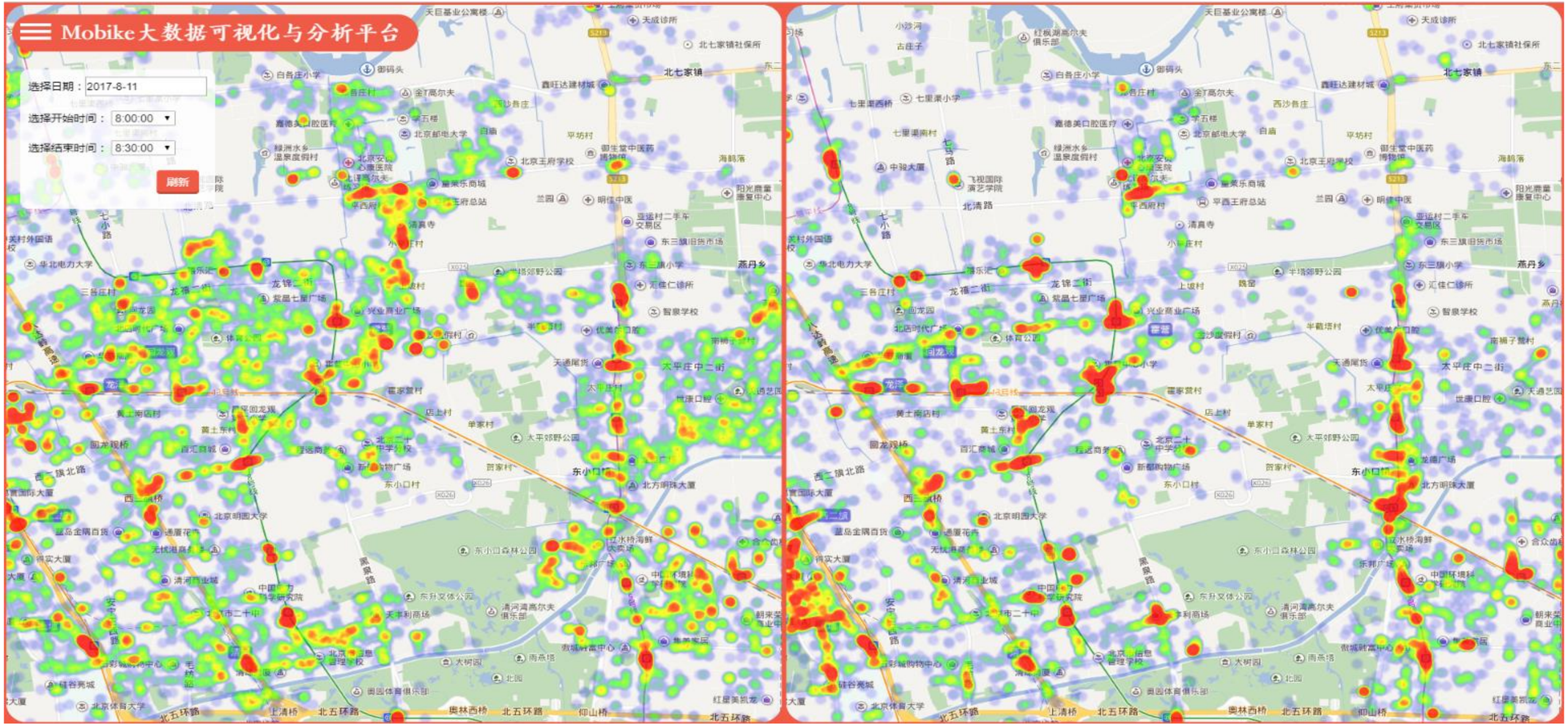
Spatial Statistic Tool: “Compass”



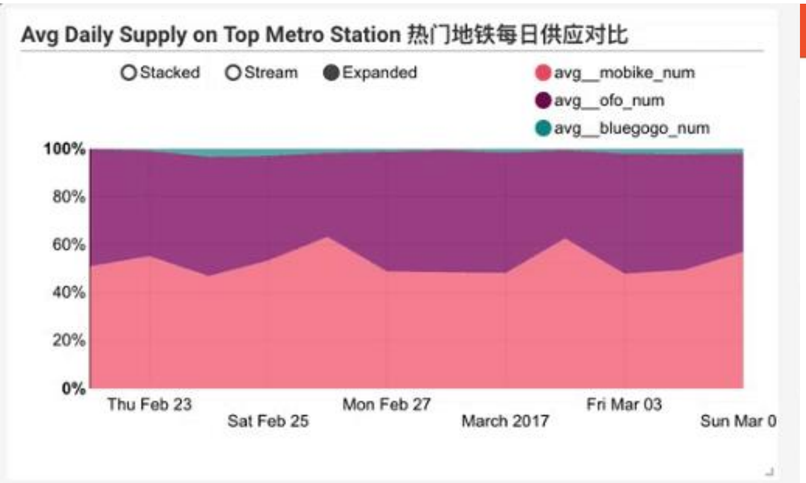
The Magic Cube Dashboard

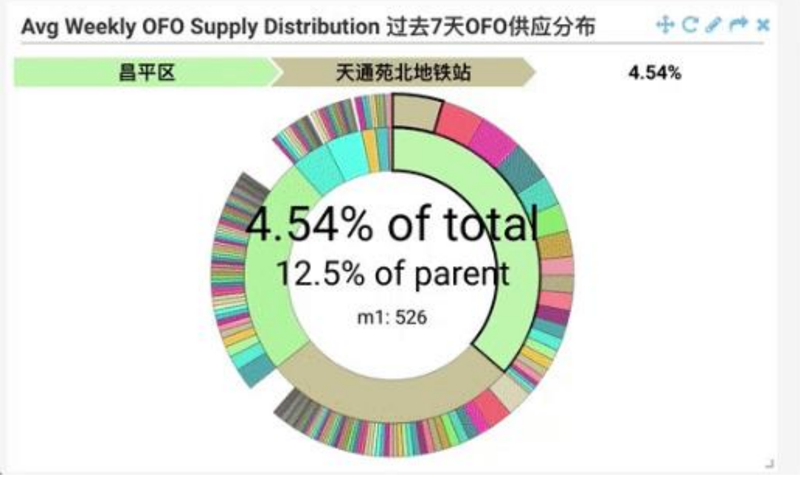


Comparable Visualization



Competitor Monitoring





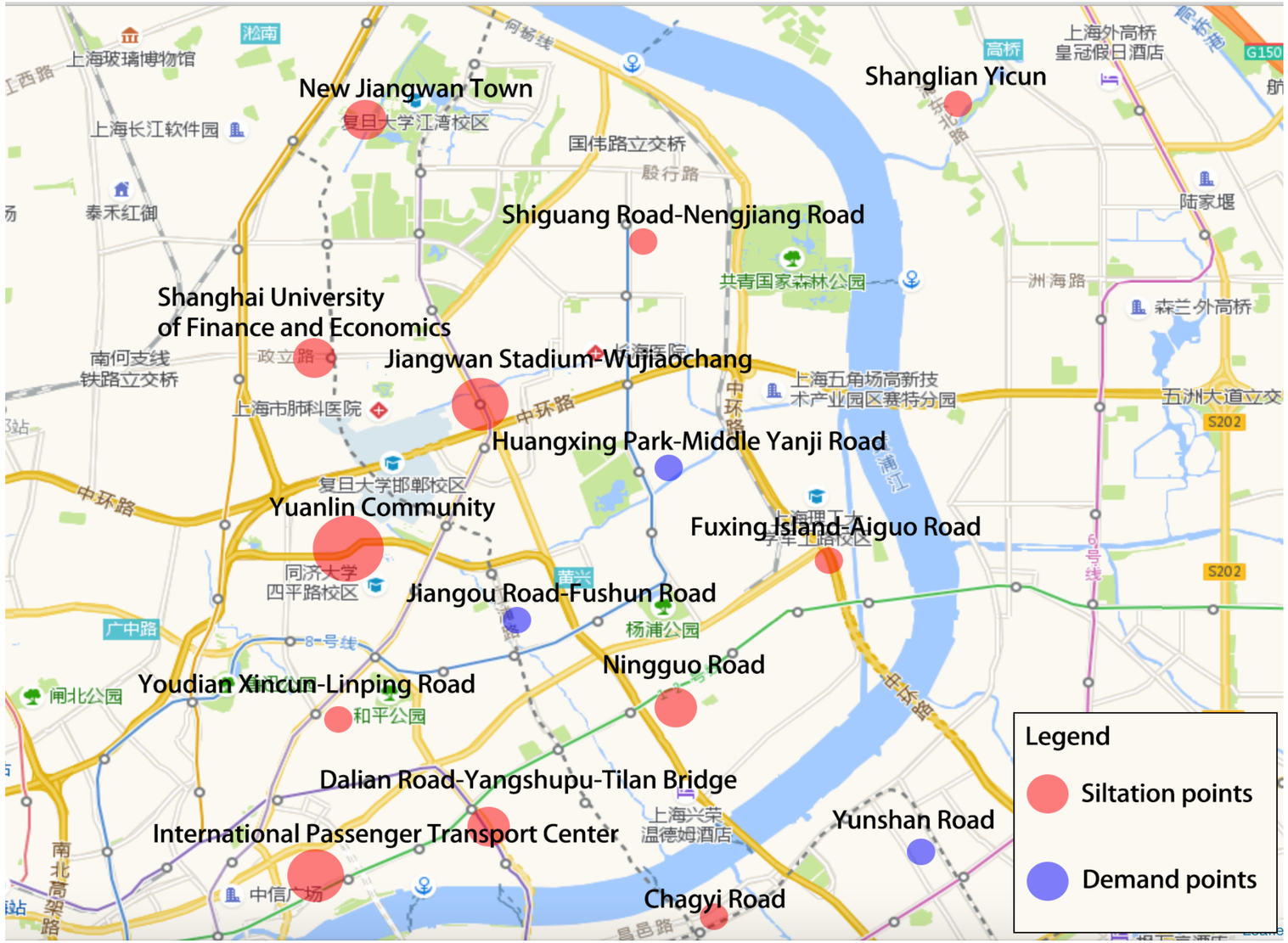
Mobike | Mobike与ofo地铁站活跃度对比 | Download | 说明

请选择日期：

2017-03-23

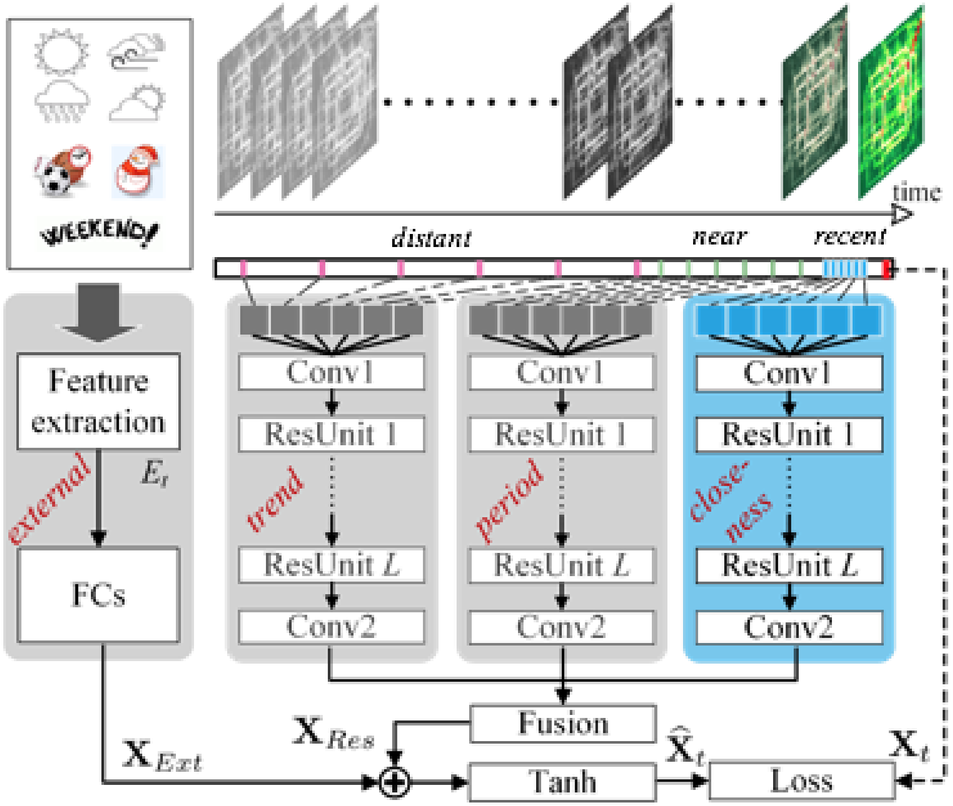
Display a menu

Detect the Hot Spot



The Distribution of Bicycles' Siltation and Demand Points during Workdays in **Yangpu District**, Shanghai

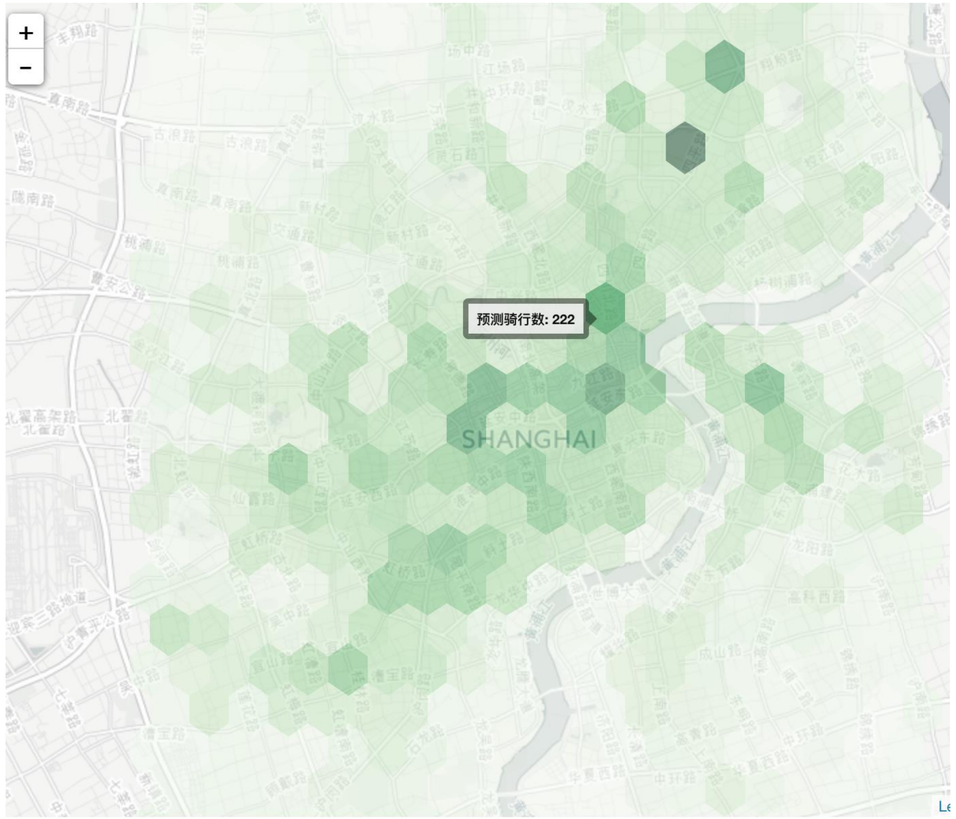
Deep Learning in Solving Spatial Problem

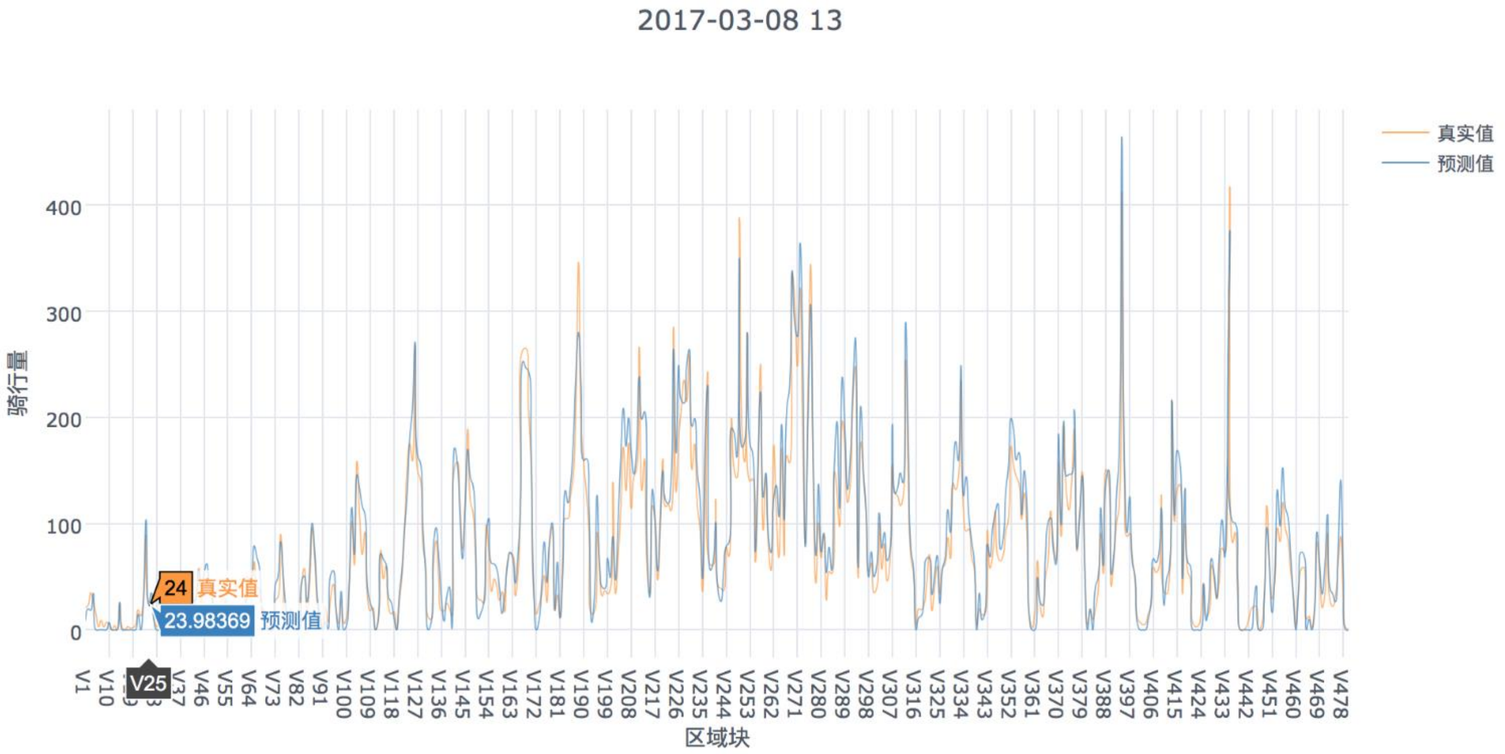


$$\mathbf{X}_{Res} = \mathbf{W}_c \circ \mathbf{X}_c^{(L+2)} + \mathbf{W}_p \circ \mathbf{X}_p^{(L+2)} + \mathbf{W}_q \circ \mathbf{X}_q^{(L+2)} \qquad \hat{\mathbf{X}}_t = \tanh(\mathbf{X}_{Res} + \mathbf{X}_{Ext})$$

Zheng, Yu. "Urban computing: enabling urban intelligence with big data."*Frontiers of Computer Science* 11.1 (2017): 1-3.

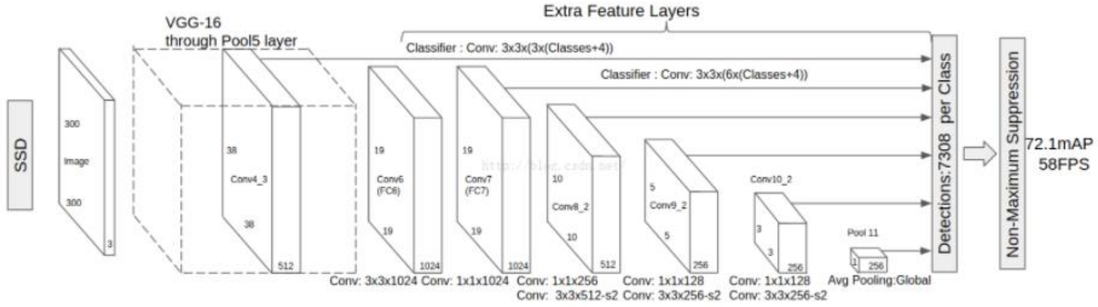
Supply-Demand Prediction with CNN on TensorFlow

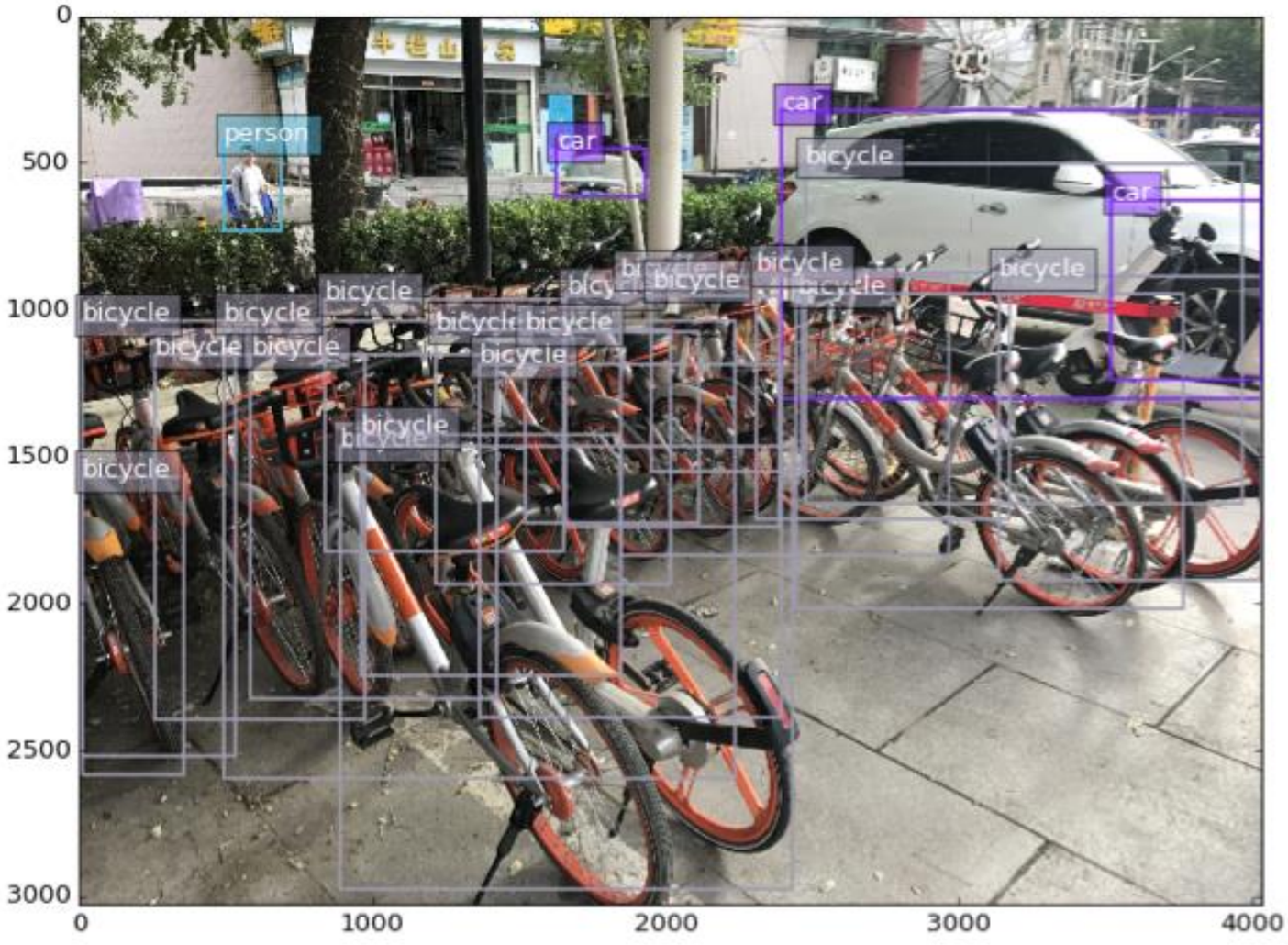




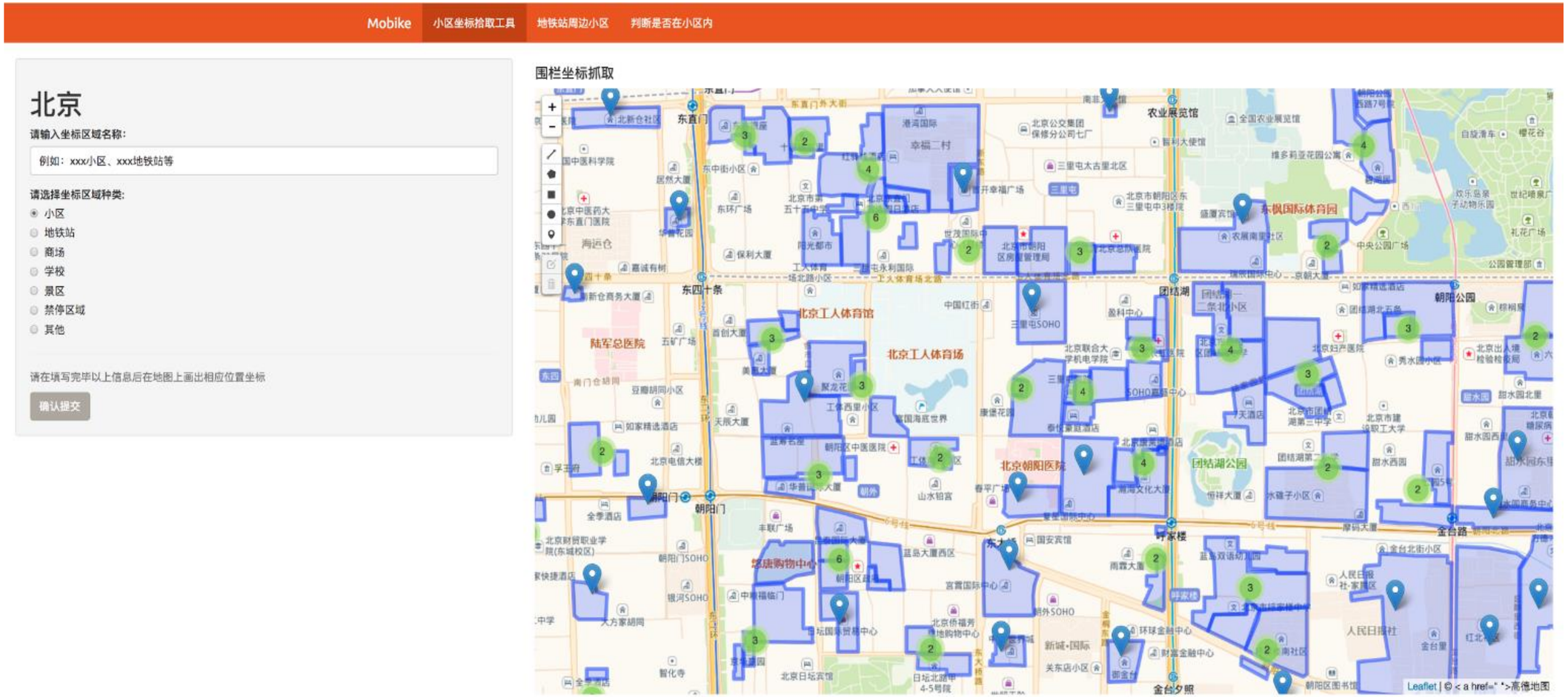
Apply RCNN to Count No. of Bike

- R-CNN





Application of Geofencing

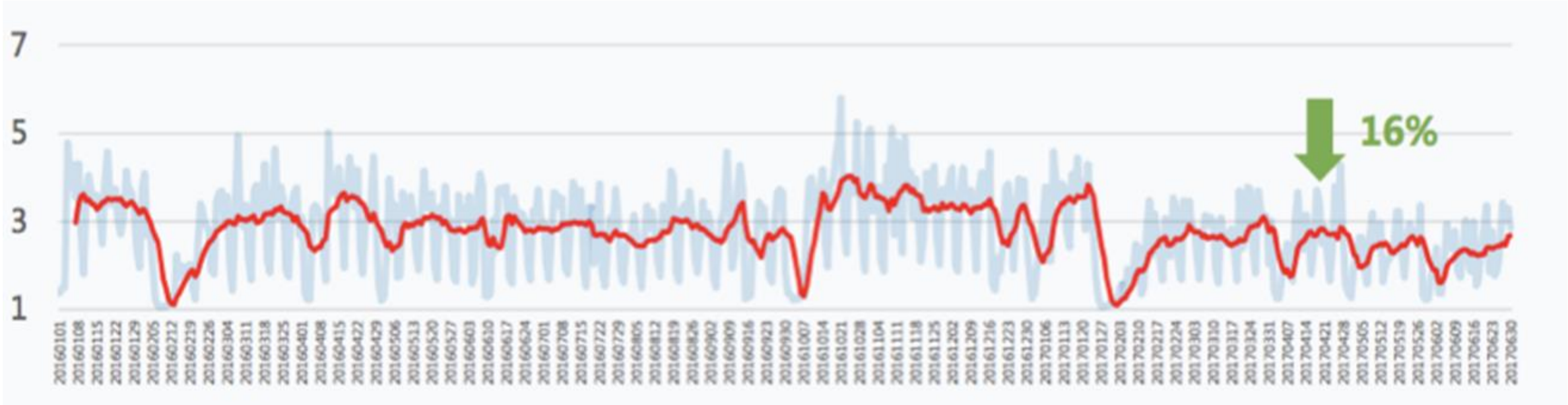


Social Impct

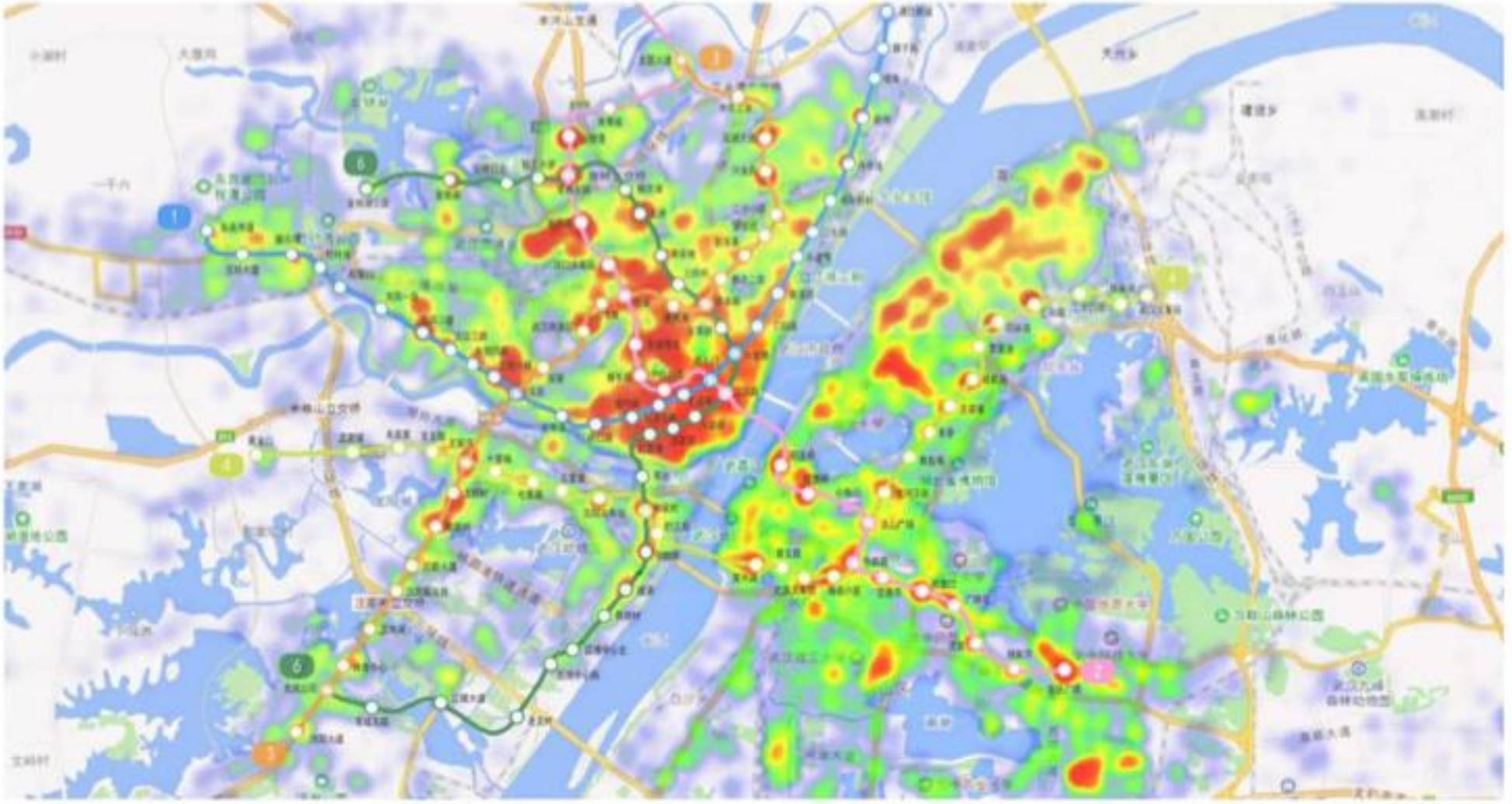
More bike riding, Less traffic congestion

As the total number of Mobike grow from 0 to 400, the traffic congestion index around CBD is dropped by 16% in the center of CBD and the average speed increase from 21 km/h to 24.36 km/h.

Daily change of Amap Traffic Congestion Index at CBD



The relationship between shared bikes and metro stations (Wuhan)



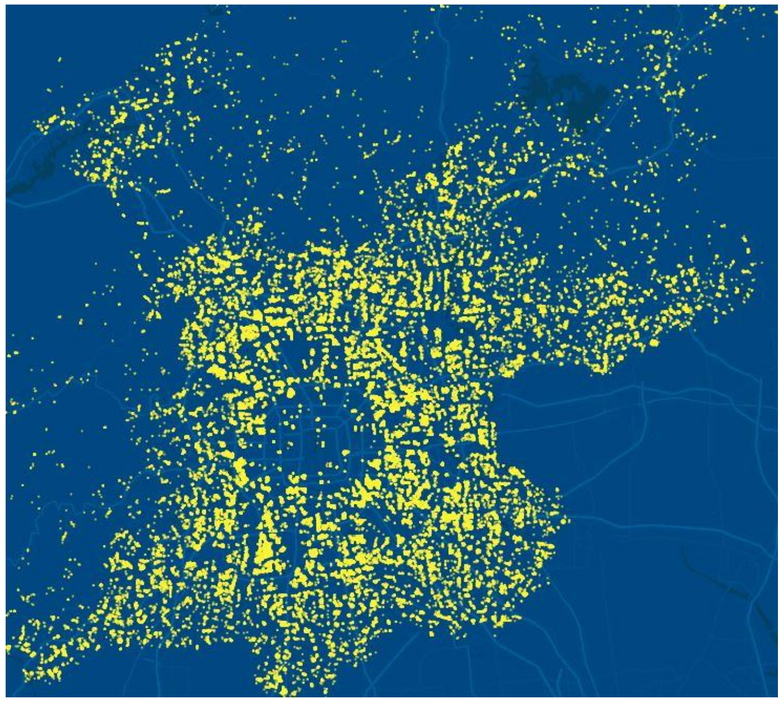
Top 5 Metro Station:

1. **Hanjianglu**
2. **Dazhilu**
3. **Hanzhengjie**
4. **Wushenglu**
5. **Liuduqiao**

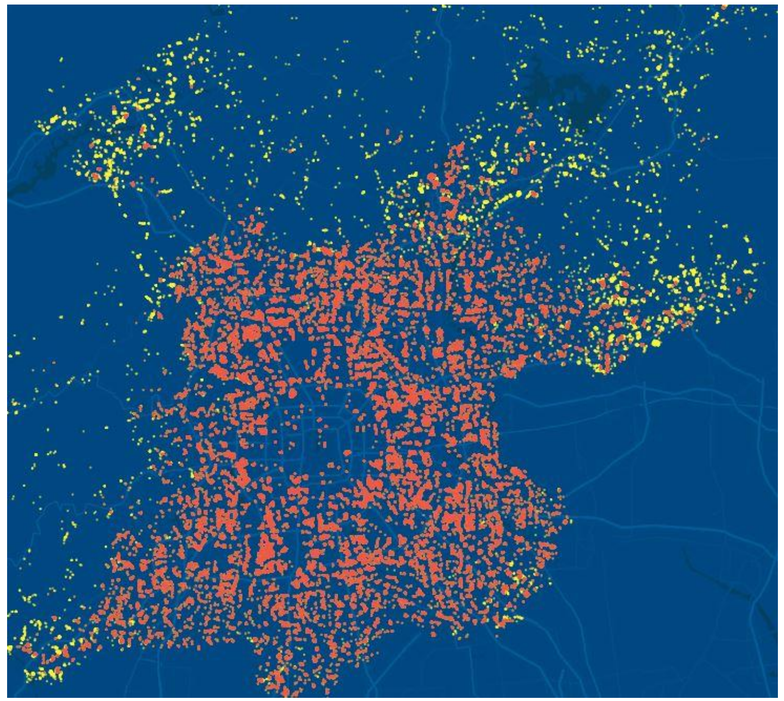
Fill the Gap of public transit service

A joint study by Baidu Map and Mobike shows shared bikes can fill the gap of public transit.

The prevalence of shared bikes improved convenience of public transport. In Beijing, 92.7% population are covered.



公共交通站点未覆盖盲区分布图



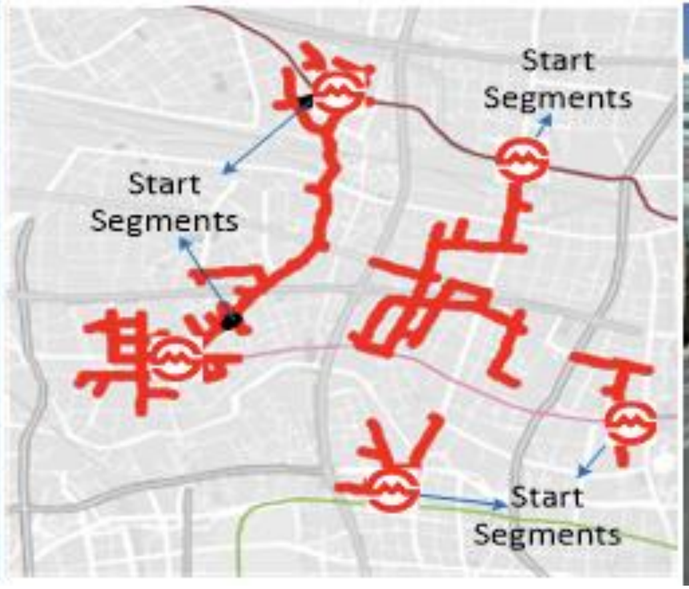
摩拜单车对公共交通站点盲区覆盖分布图

摩拜单车覆盖后的盲区分布图

Data Source：The White Paper about Bike-sharing and city development

Assist Bike Lane Plan

Planning Bike Lanes based on Sharing-Bikes' Trajectories （**KDD2017**）



Assist City Planning

The 1st high speed bike lane in Beijing

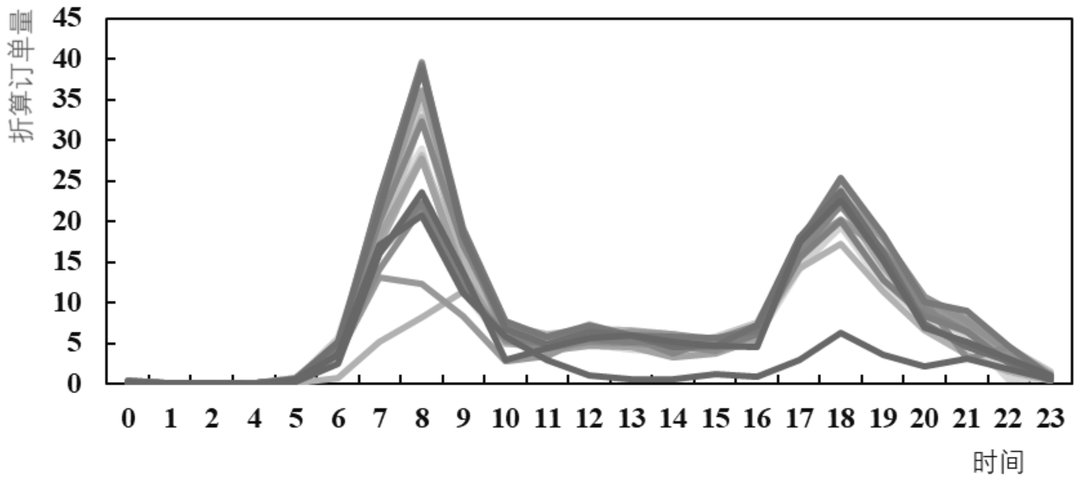
The Zhongguancun Working Area
(The R&D center of many IT company - “China’s Silicon Valley”)

The Huilongguan Residence Area (The largest residency in the world – “Sleep Town”)

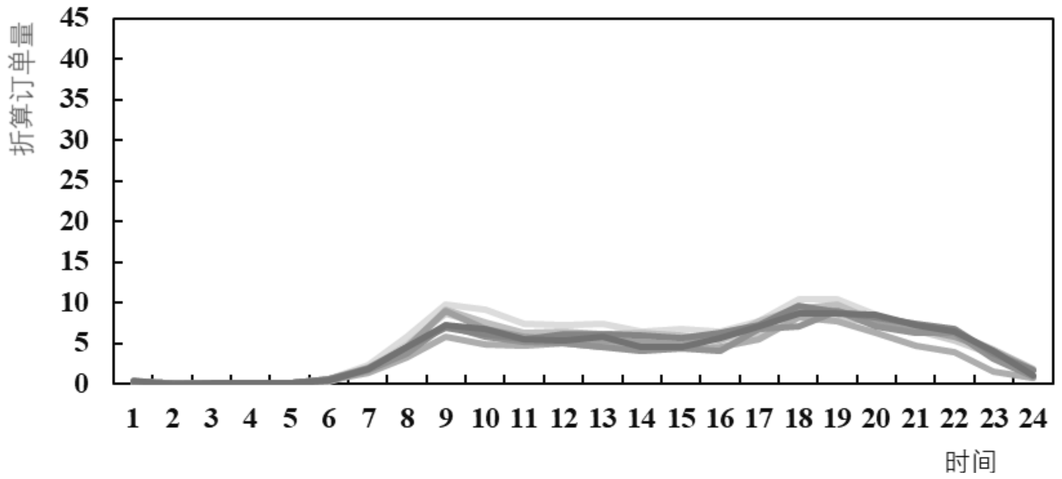
Mobike help provide the riding demand data for Beijing City Plan Academy

Travel Patterns of Different City/Metro Stations

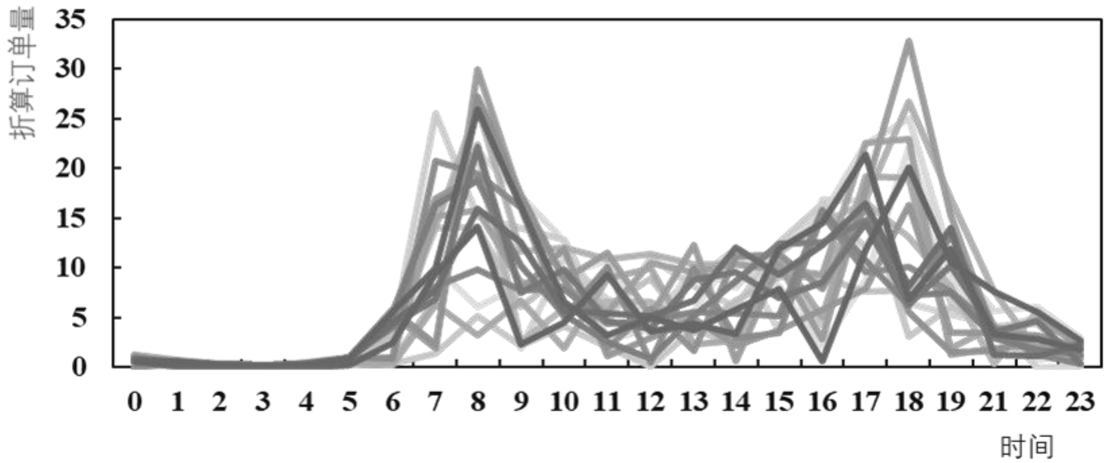
Beijing Shangdi-Weekdays



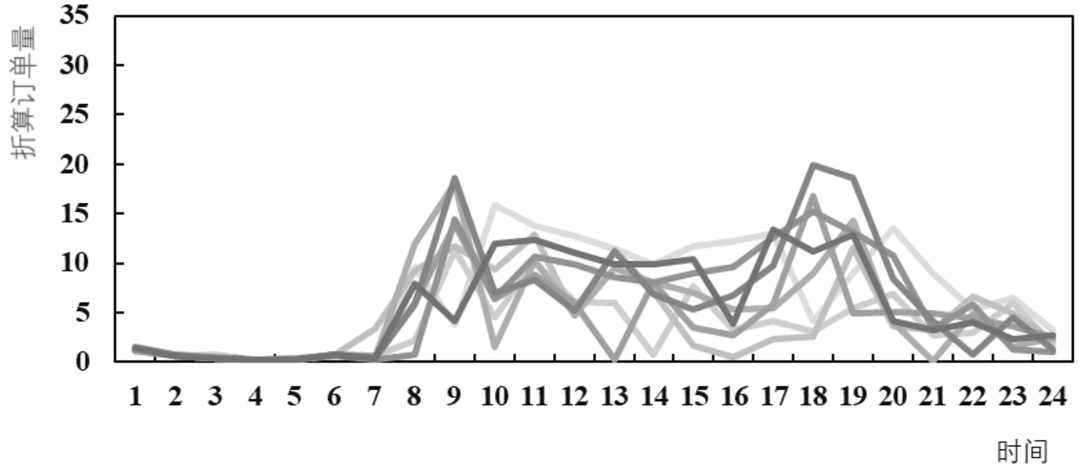
Beijing Shangdi-Weekend



Guangzhou Xicun-Weekdays



Guangzhou Xicun-Weekend



*Data Source：Mobike Orders in July 2017

The Concept of TOD Should Conside Bike

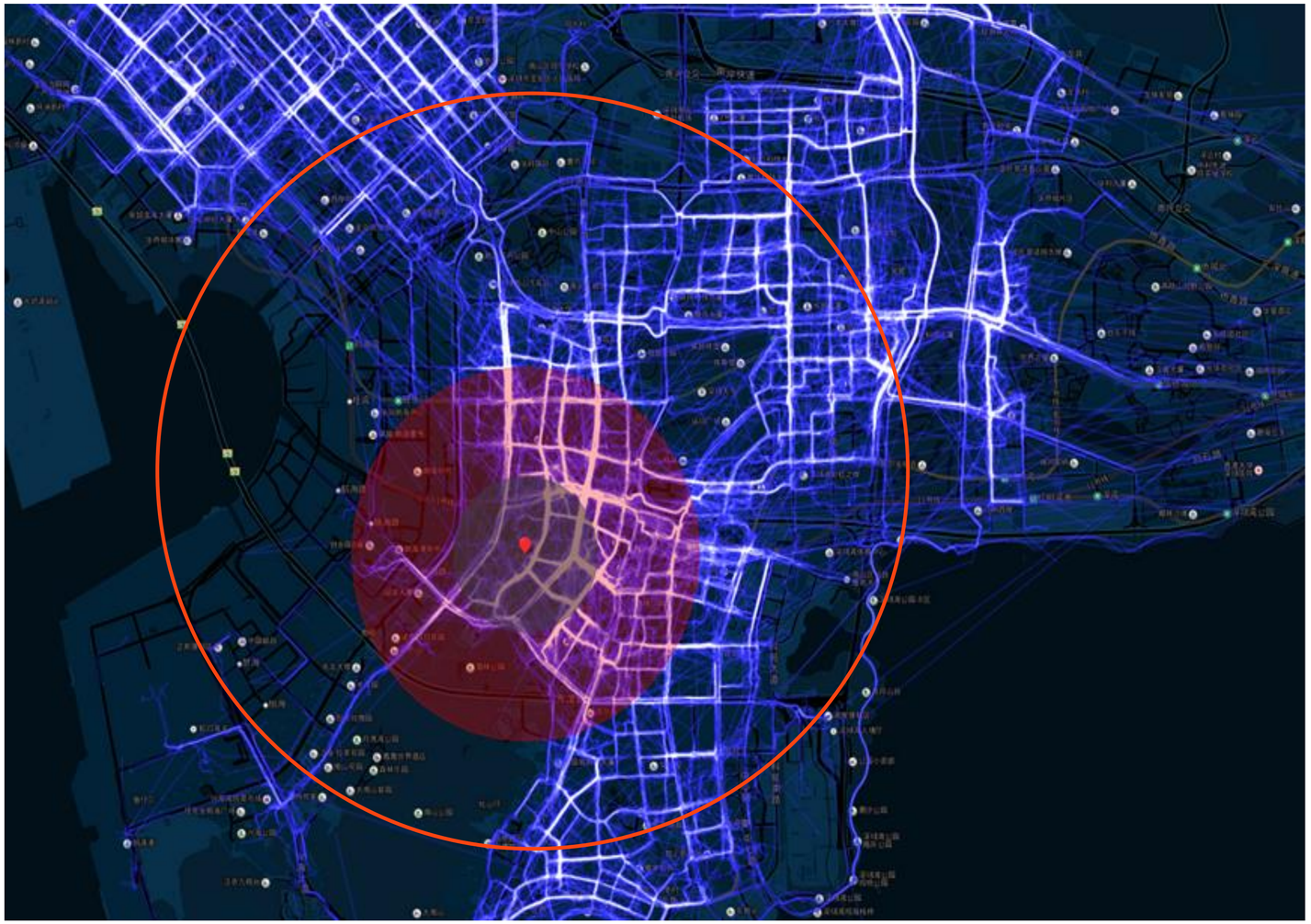
Collaborate Research with World Bank

metro station

10 min's walking radius

10 min's biking radius

Coverage of 85% trips



Shenzhen Nanshan Station

*. Data Source： Data from Mobike Order in July 2017

Understanding transit-oriented development through bike-sharing big data

About Us

The Sustainable Cities blog is a space for urban development

Environmental Impact

- Travel Distance : 18.2B km (2016.4 -2017.10)
- CO2 reduction: 4.4M tons
- Money saved on pollution reduction: 192M $
- UN Environment:
  - “Champions of the Earth”

Hu Weiwei get award in Nairobi

HOW CYCLING IMPROVES CITIES

BIKESHARING FURTHERS THE UN SUSTAINABLE DEVELOPMENT GOALS (SDG)

Mobike is working with global NGOs to reach SDGs of sustainable cities & communities (goal 11), climate action (goal 13), and social equality (goal 5, 10), in some specific areas:

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Thanks：）