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الجمعية المغربية الدائمة لمؤتمرات الطرق  
L'Association Marocaine Permanente des Congrès de la Route  
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# Shared Accessibility and Sustainable and Inclusive Mobility — Insights from Beijing, China

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**International seminar on Accessibility and Mobility for Urban and Peri-urban Areas: challenges and opportunities for the cities of tomorrow**

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# Content

- 1. Mobility-as-a-Service (Maas) Green Travel Initiative**
- 2. Low Emission Zone (LEZ) Policy**
- 3. High-level Autonomous Driving (HAD) Demonstration Area**

# 1 Background

- Case 1: MaaS Green Travel Initiative → Shared & green mobility choices
- Case 2: Low Emission Zone (LEZ) → Cleaner air & congestion relief
- Case 3: High-level Autonomous Driving (HAD) → Smart transport for future cities

MaaS

LEZ

AV





## 2 Mobility-as-a-Service (Maas) Green Travel Initiative

- Selected as one of the typical cases in the report “2025 Global Sustainable Transport Best Practices” released at United Nations Headquarters, 2025
- Led by Beijing Municipal Commission of Transport
- Recognized for innovative concept and practical achievements in promoting green travel, integrating transport needs, and intelligent route planning



## 2.1 What is Beijing Maas

-  **Beijing MaaS Green Travel Initiative**
- **Since 2019, Beijing has been piloting a Maas platform**
- **One app for all transport needs, such as bus, metro, shared bike, ridesharing, and taxis**
- **A screenshot of Beijing's Maas platform highlights how choosing a route leads to map and payment options without leaving the app**



The image displays two screenshots of the Beijing Maas app. The left screenshot, titled "Navigation App", shows a route from Beijing South Station to the Forbidden City Museum. It lists four route options with their respective travel times and walking distances. The second route, "32 minutes, 467m walking", is highlighted with a red arrow pointing to a "打车¥13" (Taxi ¥13) option. The right screenshot shows a QR code for Alipay, with a red arrow pointing to it from the taxi option in the left screenshot. Below the QR code is a "Carbon Credits" section. At the bottom right, a map shows the route, with a red arrow pointing to it from the taxi option in the left screenshot. The map also shows a "Ridesharing" option.

**Navigation App**

42分钟 需步行1.4公里  
4号线大兴线 1号线八通线 步行16  
6站 · ¥4 · 北京南站(D西入口)进站  
4号线大兴线(安河桥北方向) 预计14:11进站

32分钟 需步行467米 步行少  
4号线大兴线 1号线八通线 打车¥13  
5站 · ¥16 · 天安门西(B东北口)出站  
4号线大兴线(安河桥北方向) 预计14:11进站

1小时1分 需步行3公里  
4号线大兴线 2号线外环 步行40  
5站 · ¥3 · 北京南站(D西入口)进站  
4号线大兴线(安河桥北方向) 预计14:11进站

1小时17分 需步行1.5公里  
381路 5路加车德胜门区间 步行14  
10站 · ¥4 · 北京南站上车  
381路(西红门公交场站方向) 等待首站发车

**Alipay Code**

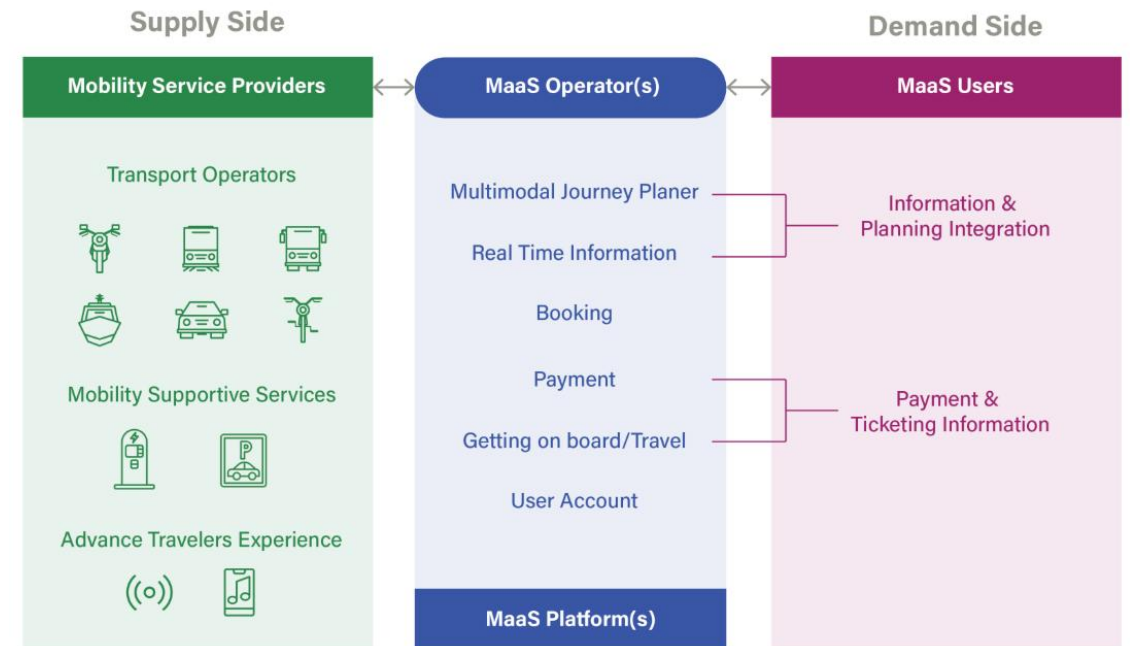
**Carbon Credits**

**Ridesharing**

## 2.2 Benefits and Success Factors

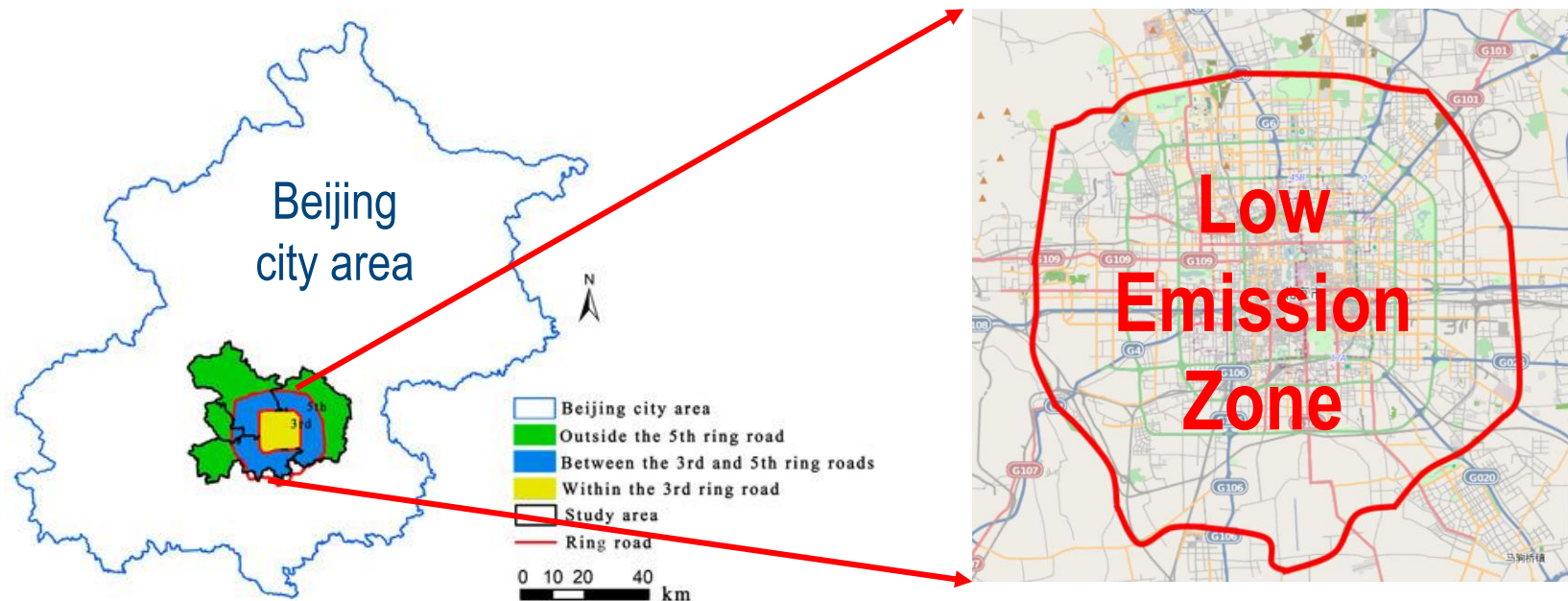
- **1) Strong Government Support**
  - Led by Beijing municipal government
  - Launch “MaaS 2.0 Work Plan” in 2023: aim for six million green trips / day by 2025.
- **2) Ecosystem Where Companies Work Together**
  - Integrating Gaode Maps, Baidu, bus and metro operators, and shared mobility providers, payment access and retailers
- **3) Carbon Credits for Green Travel**
  - Exchange transport and shopping discounts

Since 2020, 30M total users and 5.6M carbon-credit registered users, 450,000 tons CO<sub>2</sub> reduction



### 3 Low Emission Zone (LEZ) Policy

- Since 2014, Beijing has officially implemented LEZ to reduce traffic-induced air pollution and urban congestion
- Driven by national and regional policies (like Beijing Air Pollution Prevention Regulations, Beijing's 2013-2017 Clean Air Action Plan)
- Gaining supports by over 200 public awareness campaigns (like Low-Carbon Day)



## 3.1 How Beijing's LEZ Operates

- Restrictions within **within 5<sup>th</sup> ring road** based on:
  - ✓ Vehicle emission standard & fuel type
  - ✓ Passenger vs. freight, vehicle load
  - ✓ Time of day, air quality
  - ✓ Odd-even license plate
- Exemptions for **pure electric vehicles, emergency vehicles, public transport**
- **On-site and remote methods**, like Automated Number Plate Recognition (ANPR), electronic surveillance, and mobile applications for enforcement.

Vehicle Emission Standard	Gasoline Passenger Cars	Diesel Trucks
China I / II	Restricted within 5 <sup>th</sup> Ring Road, on weekdays.	Banned citywide, all day.
China III		Restricted within 5 <sup>th</sup> Ring Road (6:00 to 23:00). Trucks of over 8 tons restricted on main roads within the 5 <sup>th</sup> Ring Road.
China IV	Odd-even vehicle ban (3:00 to 24:00) in heavy pollution.	Citywide restrictions in heavy pollution.
China V and above		Odd-even vehicle ban (3:00 to 24:00) in heavy pollution.

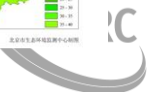
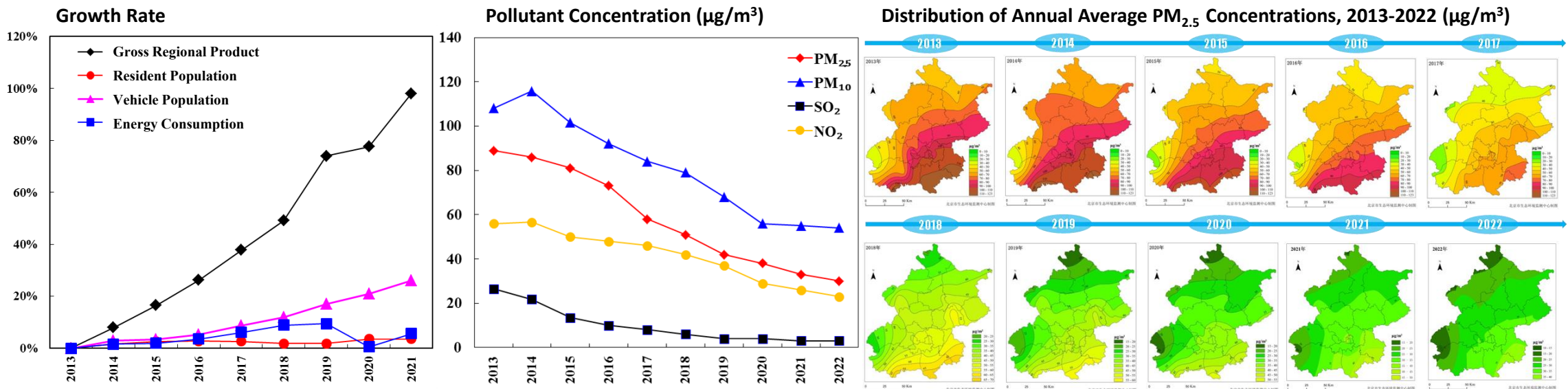
## 3.2 Benefits and Success Factors

### Significant Decline in Pollutant Concentrations (2013–2022):

- ✓ PM<sub>2.5</sub> ↓ 66.5%
- ✓ PM<sub>10</sub> ↓ 50.0%
- ✓ NO<sub>2</sub> ↓ 58.9%
- ✓ SO<sub>2</sub> ↓ 88.7%

### Key Success Factors:

- ✓ Phasing Out High-Emission Vehicles
- ✓ Promoting New-Energy Vehicles (NEVs)
- ✓ Integrating Advanced Technology



## 4 High-level Autonomous Driving Demonstration Area

- Initiated in 2020, Beijing started building its **High-level Autonomous Driving (HAD) Demonstration Area** in **Beijing Economic-Technological Development Area (BDA)**
  - ✓ **600 km<sup>2</sup> coverage**
  - ✓ **1000+ autonomous vehicles deployed**
  - ✓ **36 companies granted test licenses**
  - ✓ **> 40 million km in driving test mileage**
- In 2025, New **international standards: ISO 34505:2025 《Road Vehicles — Test Scenarios for Automated Driving Systems — Scenario Evaluation and Test Case Generation》**



# Application Scenarios of Autonomous Driving

## ■ 8 Scenarios:

- ✓ Robotaxi
- ✓ Mini bus
- ✓ Shuttle bus
- ✓ Heavy-duty truck
- ✓ Delivery vehicle
- ✓ Retail vehicle
- ✓ Sanitation vehicle
- ✓ Patrol car

## ■ Autonomous vehicles connecting Beijing BDA with:

✓ **5 Train Stations:** Beijing South, Fengtai, Chaoyang, Qinghe, Sub-Center

✓ **2 Airports:** Daxing International, Capital International Transport Hubs

## ■ Freight Corridor:

■ **Jingjintang Expressway (Majuqiao → Tianjin Port)**

# Thank you for your attention!

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