



**Greater Beijing:
Understanding the Interventions for a Low Carbon Metropolis**
大北京：为建设一个低碳大都市而努力

Introduction on Beijing Urban Development
北京城市发展简介

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Tsinghua University

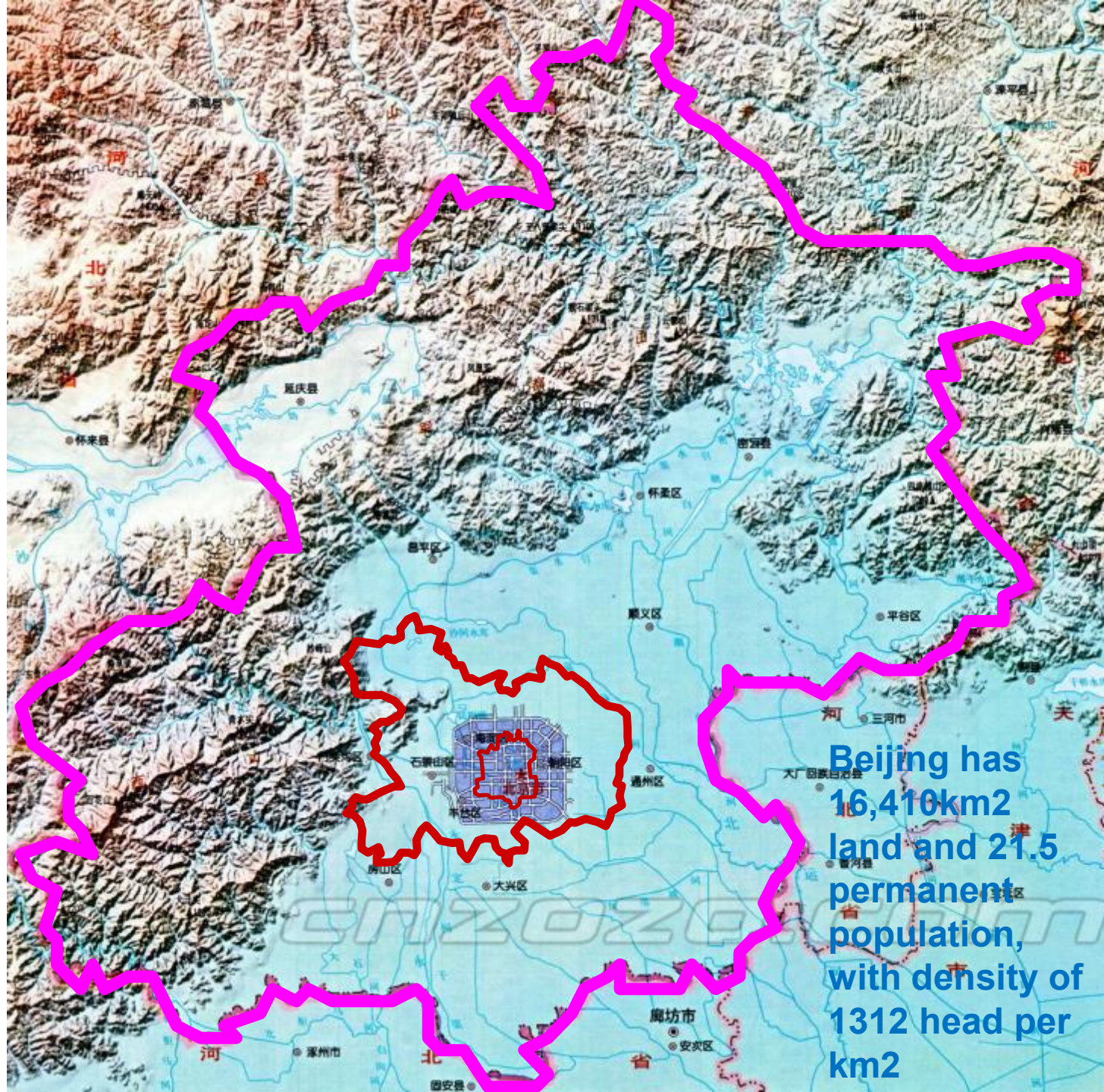
&

Ying Jin
University of Cambridge

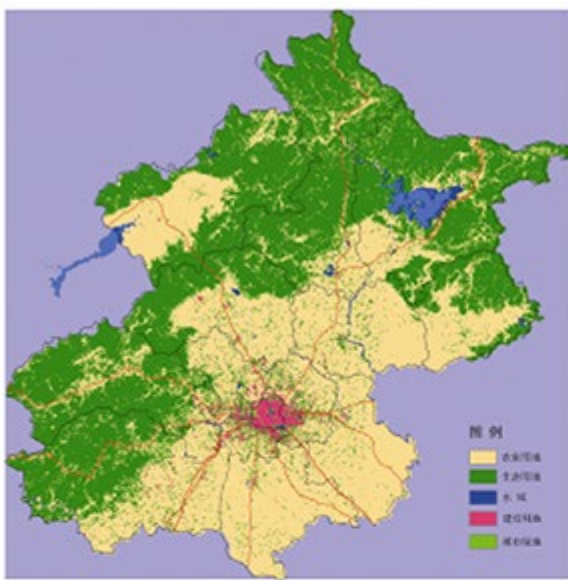
November 16, 2020

左环沧海，右拥太行，北枕居庸，南襟河济，形胜甲于天下，诚天府之国也。
—(宋)范镇《幽州赋》

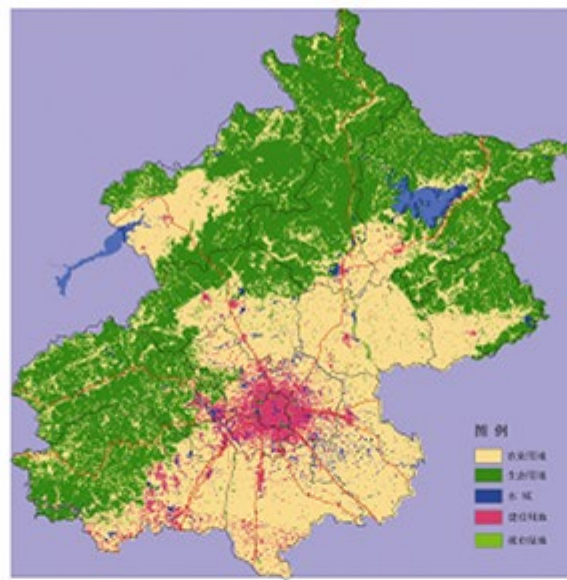
Beijing is a city with over 3000 years of history - it was strategically sited between the mountain ranges to the north of Yanshan and to the west of Taihang, and belongs to the North China Plain facing to the Bohai Sea. However, this strategic siting also causes serious thermal inversion which makes local air current the least capable of dissipating air pollution.



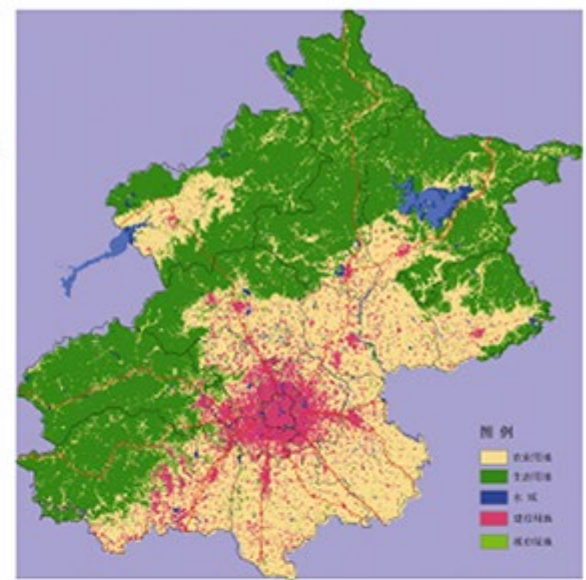
Beijing has 16,410km² land and 21.5 permanent population, with density of 1312 head per km²



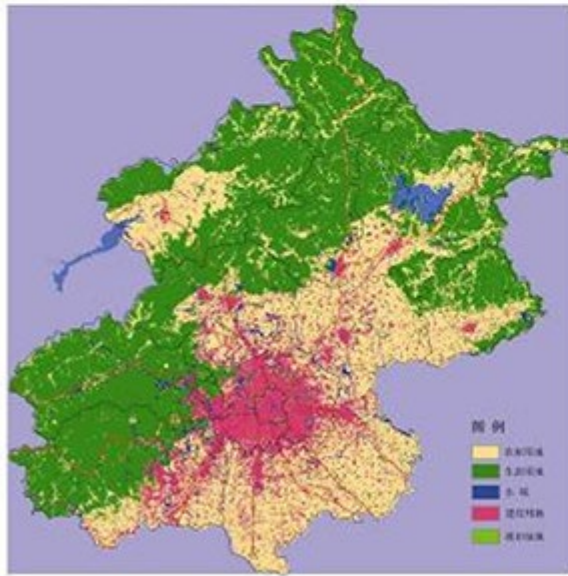
1975



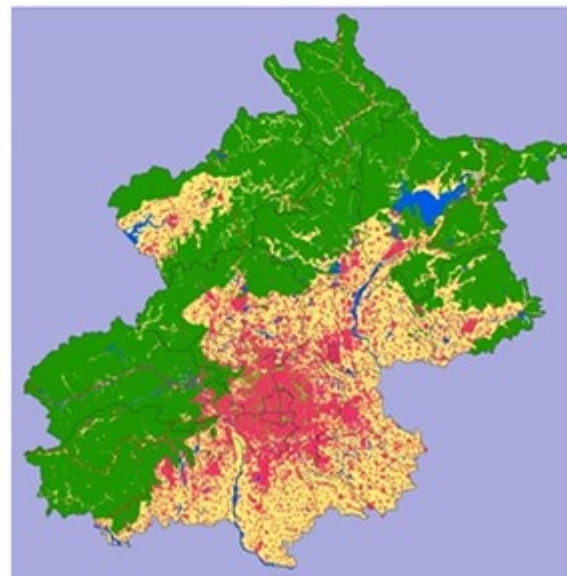
1988



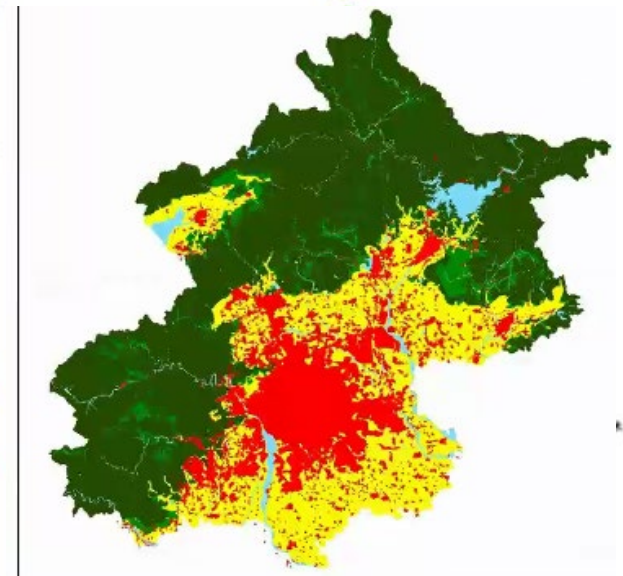
1992



2002



2008

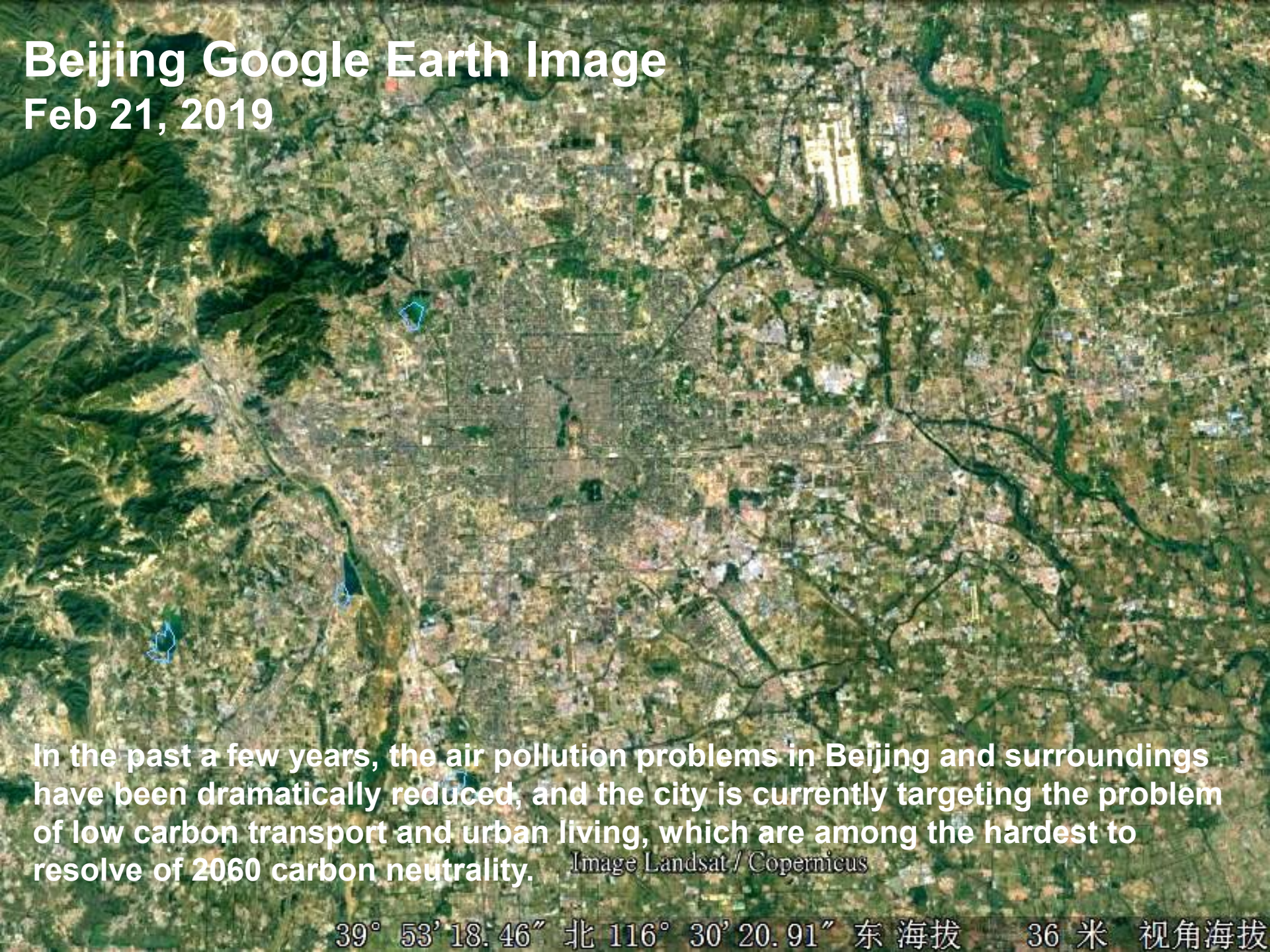


2018

Beijing's urban built up land increased from 500 km² in 1975 to 3,000 km² in 2018

Beijing Google Earth Image

Feb 21, 2019

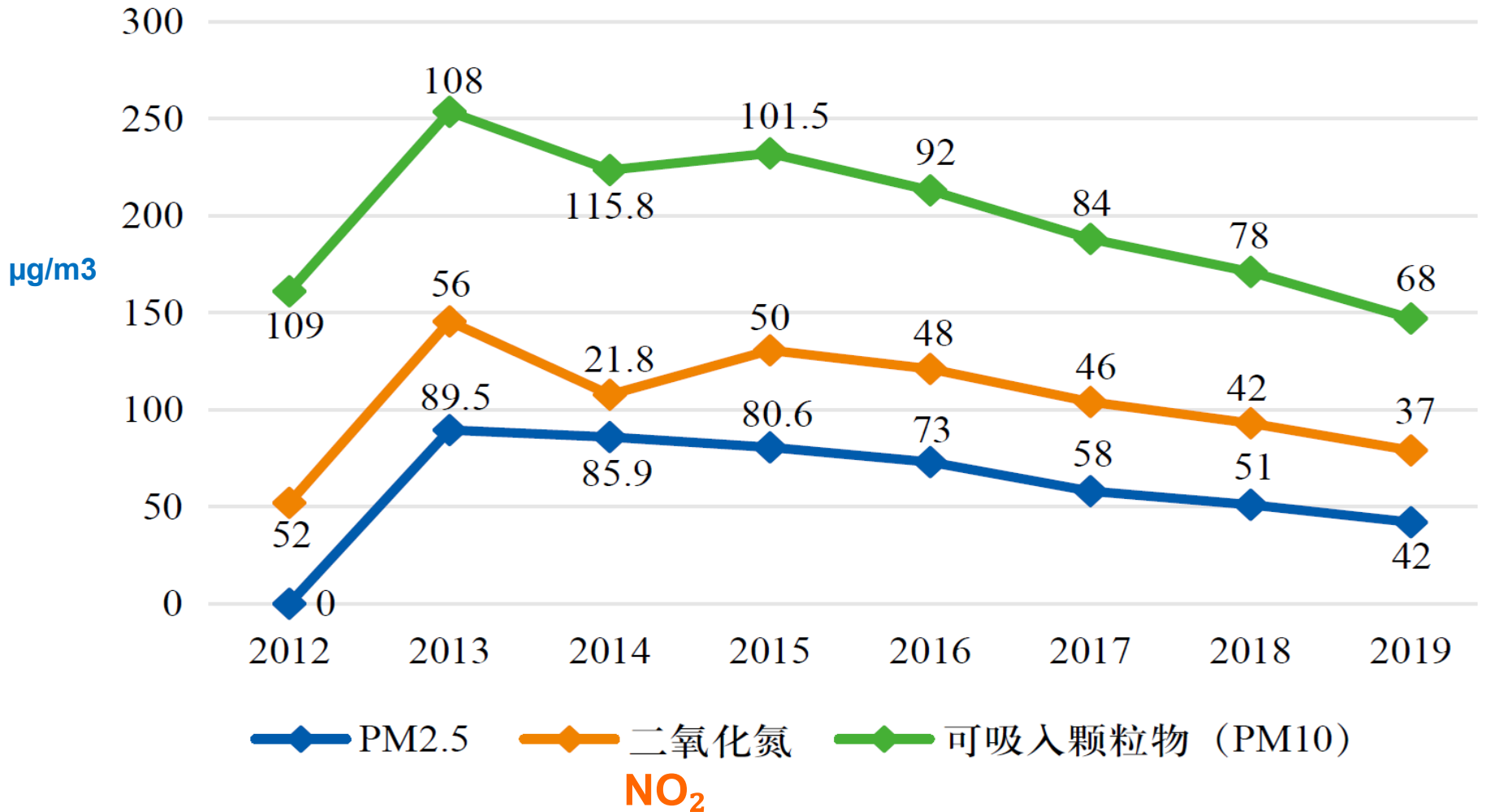


In the past a few years, the air pollution problems in Beijing and surroundings have been dramatically reduced, and the city is currently targeting the problem of low carbon transport and urban living, which are among the hardest to resolve of 2060 carbon neutrality. *Image Landsat / Copernicus*

39° 53' 18.46" 北 116° 30' 20.91" 东 海拔 36 米 视角海拔

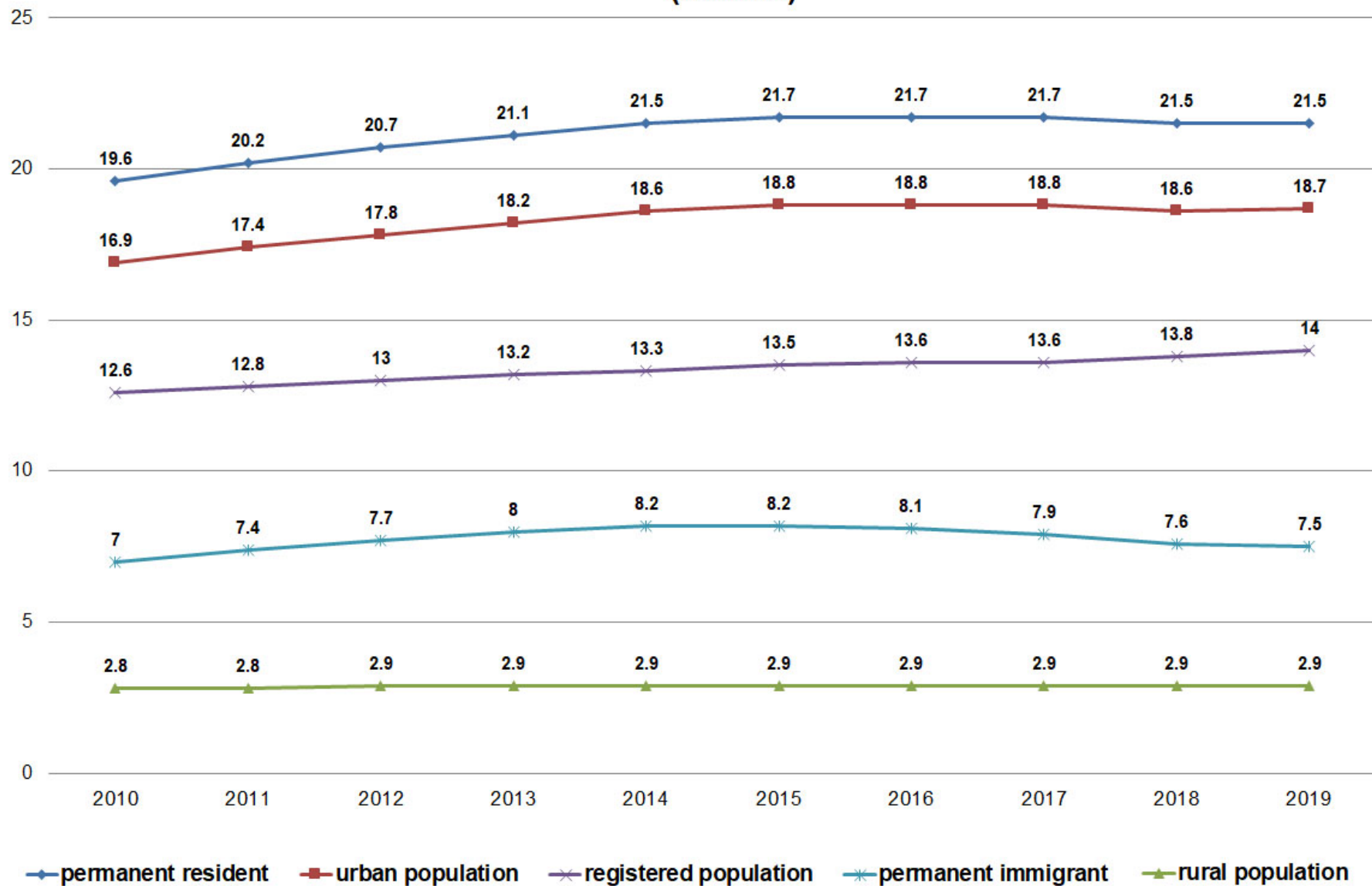
Changes in Emission-Related Air Pollution Indicators for Beijing Motor Vehicles 2012-2019

2012-2019 年北京市机动车排放相关大气污染指标变化情况



Source: Beijing Ecological Environment Bureau, 2020

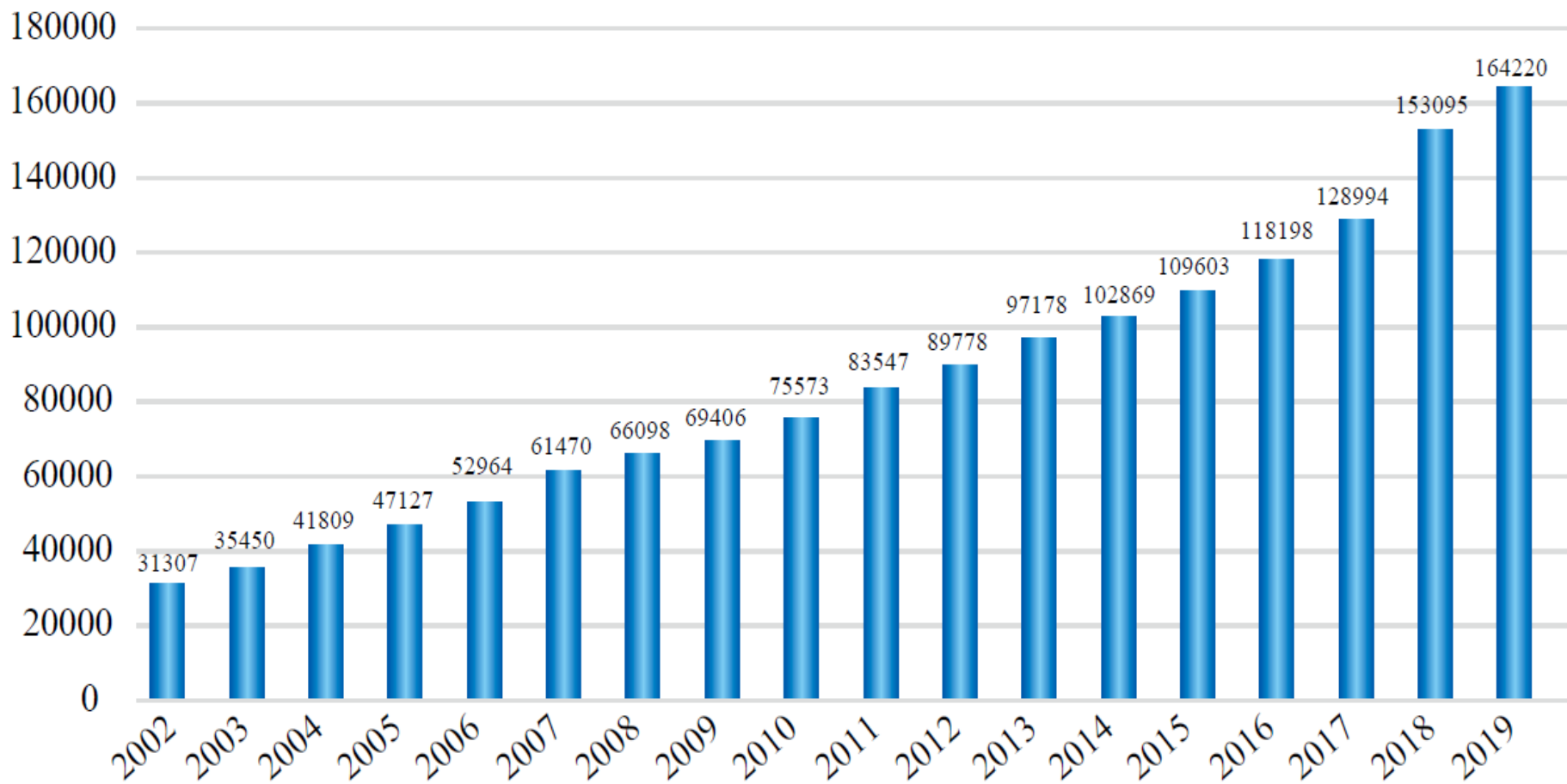
Population Development in Beijing From 2010 to 2019 (million)



Economic Development in Beijing

Per capita GDP of permanent residents from 2002 to 2019 (RMB Yuan)

北京市常住人口人均地区生产总值的发展 2002-2019
(单位：元)









Subway system in Beijing

北京（国贸-燕郊）815路公交车



国贸桥附近拥堵



GUOMAO area-
Beijing CBD



国贸地铁站拥挤严重



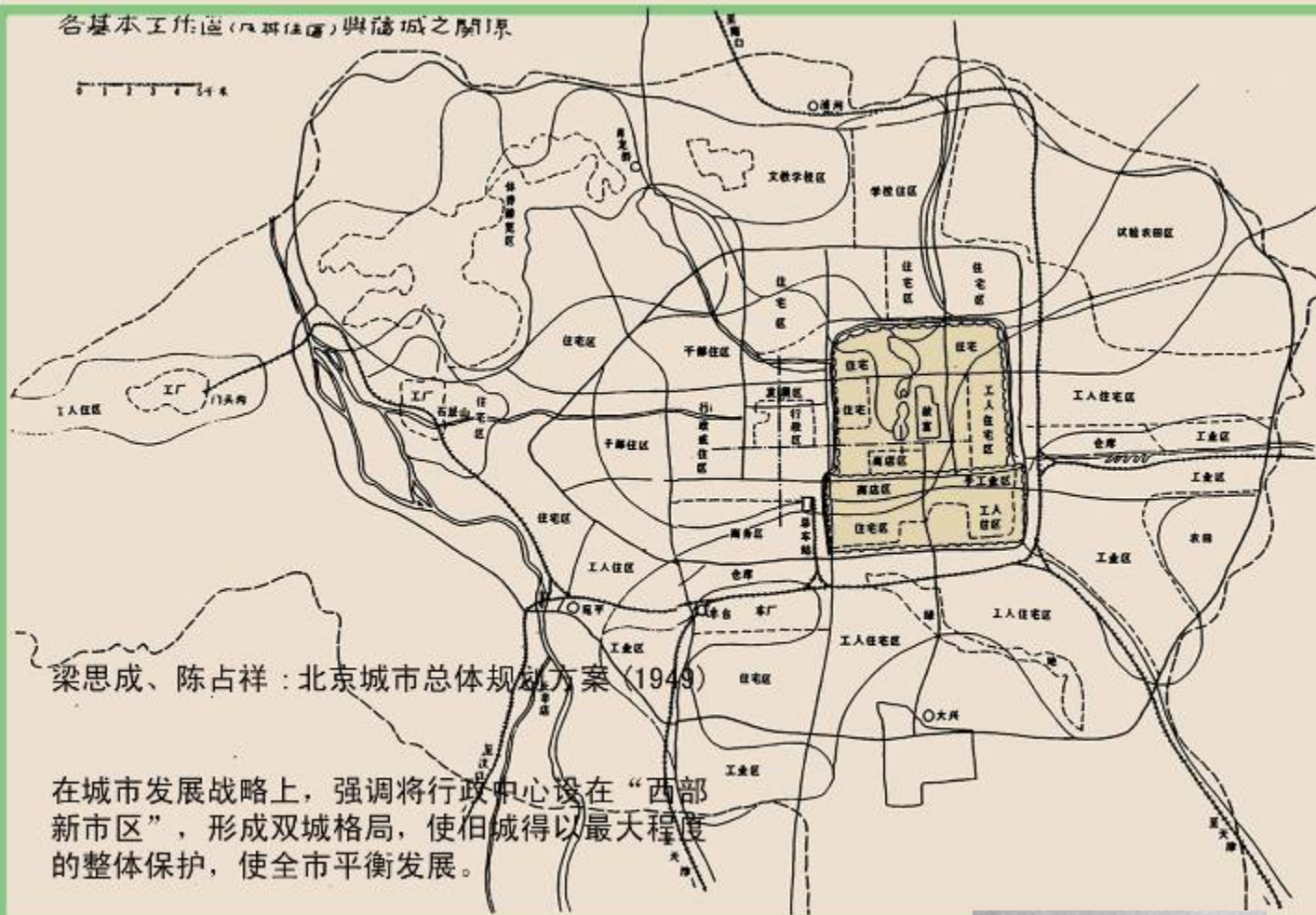
国贸桥晚高峰

Subway system in Beijing

双城方案

DUEL CITY CONCEPT

各基本工作區(及其位置)與舊城之關係



梁思成、陈占祥：北京城市总体规划方案（1949）

在城市发展战略上，强调将行政中心设在“西部新市区”，形成双城格局，使旧城得以最大程度的整体保护，使全市平衡发展。

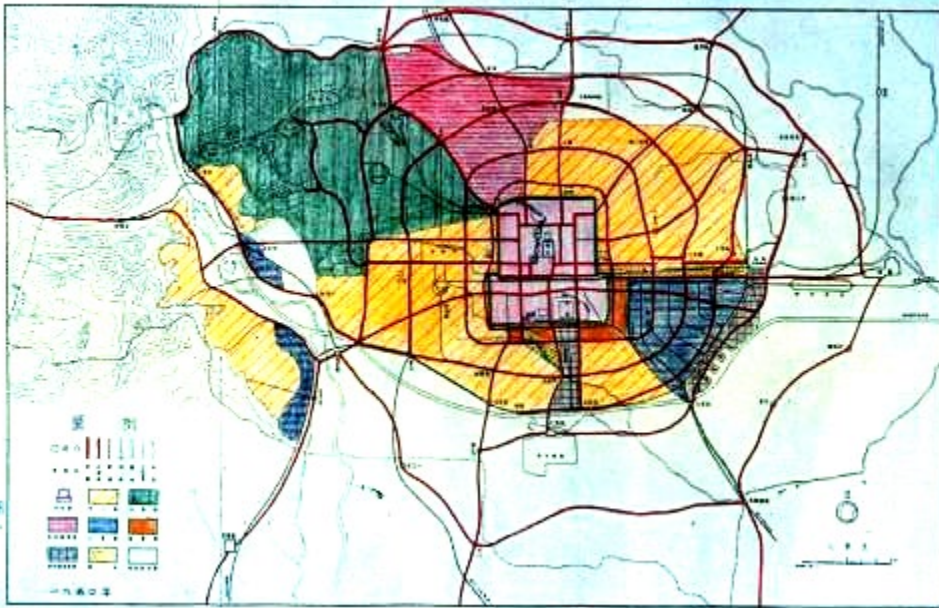


Prof. Chen Zhanxiang
(1916-2001)



Prof. Liang Sicheng
(1901-1972)

北京市都市計劃要圖



Beijing Urban Master Plan, 1950

北京市规划草图

总图

一九五四年修正稿



Beijing Urban Master Plan, 1954

北京市总体规划方案

一九五八年九月

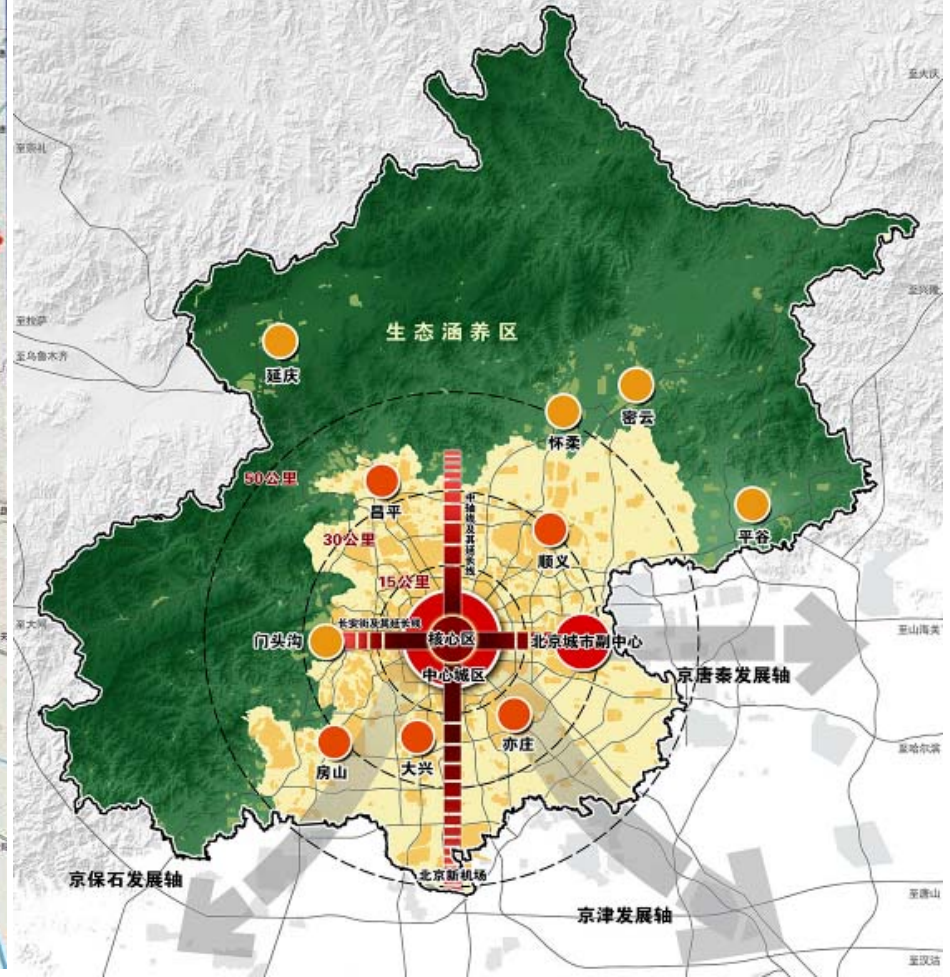
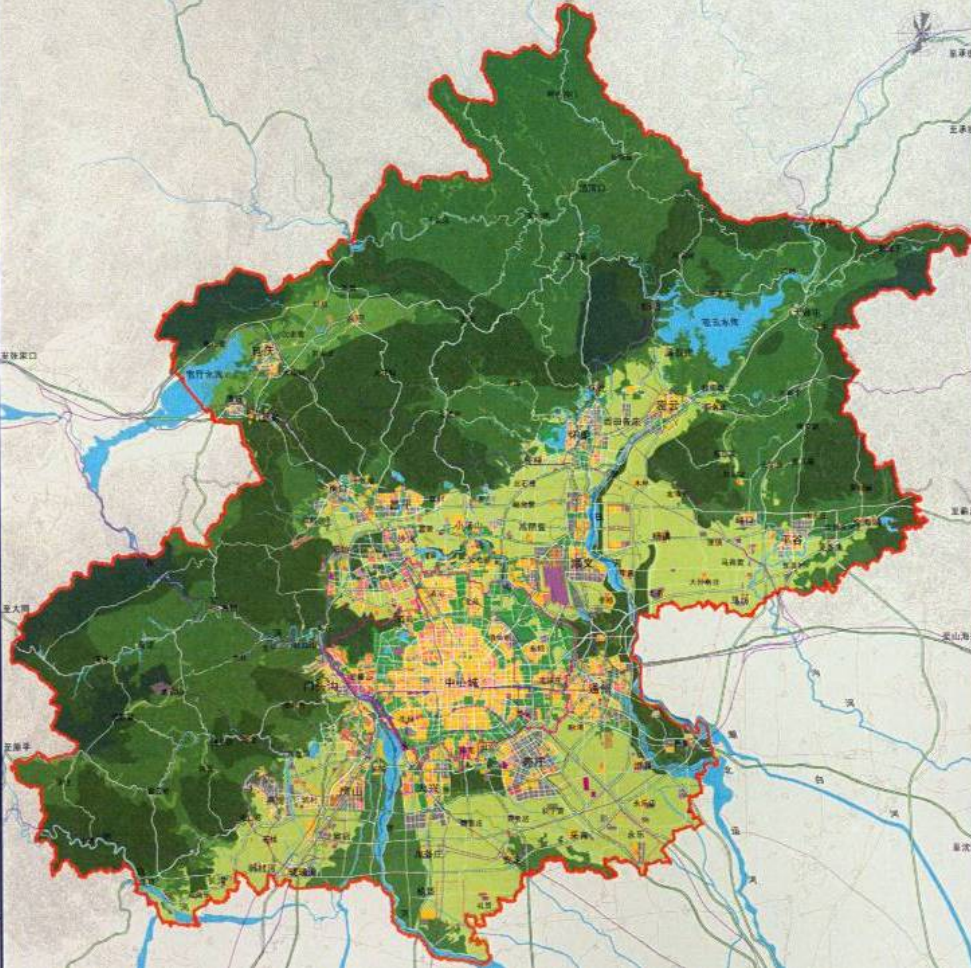


Beijing Urban Master Plan, 1958

北京市区总体规划方案



Beijing Urban Master Plan, 1983

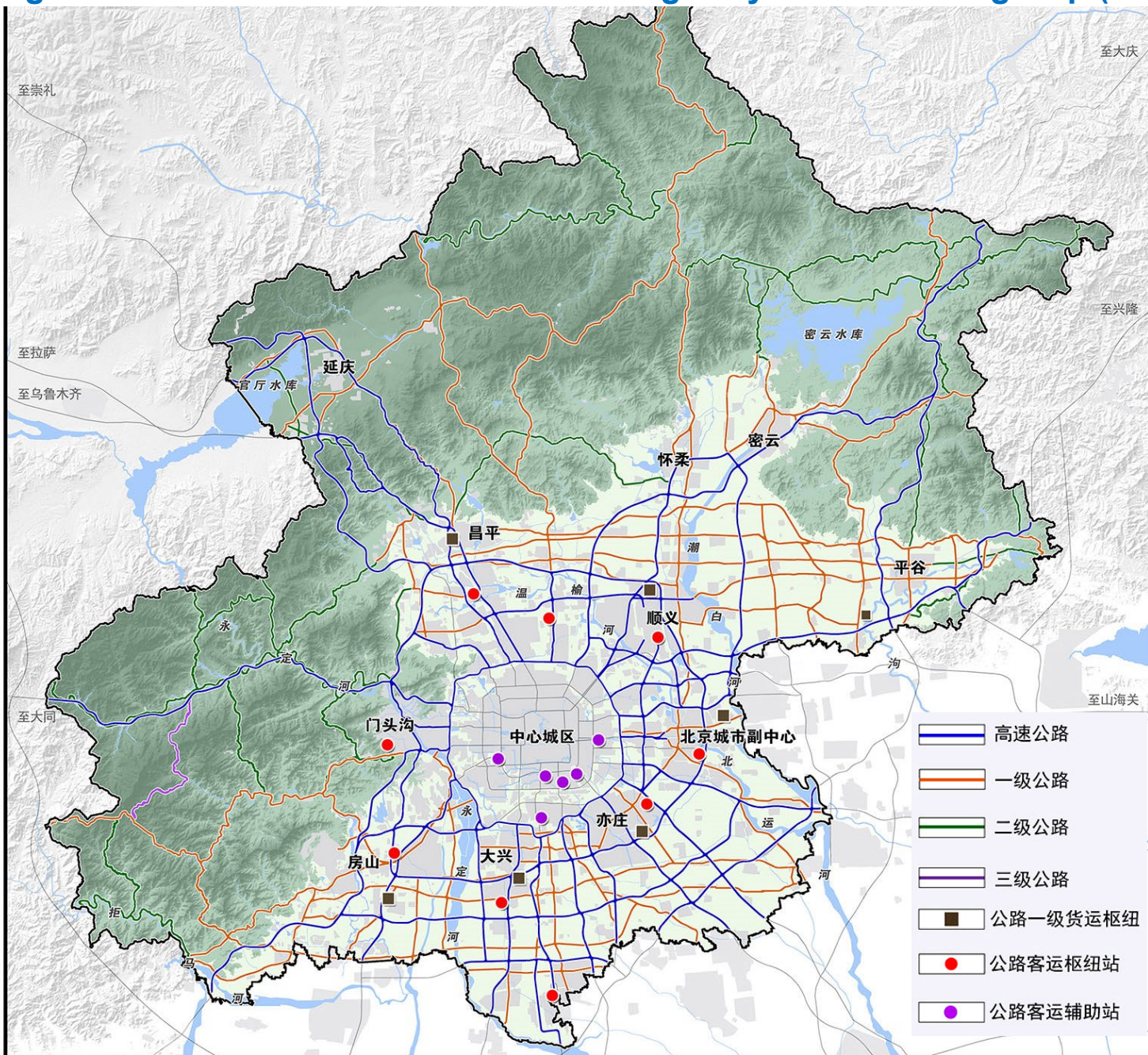


北京城市总体规划（2004—2020年）
——地区土地利用图
Beijing Urban Master Plan, 2004-2020

北京城市总体规划（2016-2035年）
——市域空间结构规划图
Beijing Urban Master Plan, 2016-2035

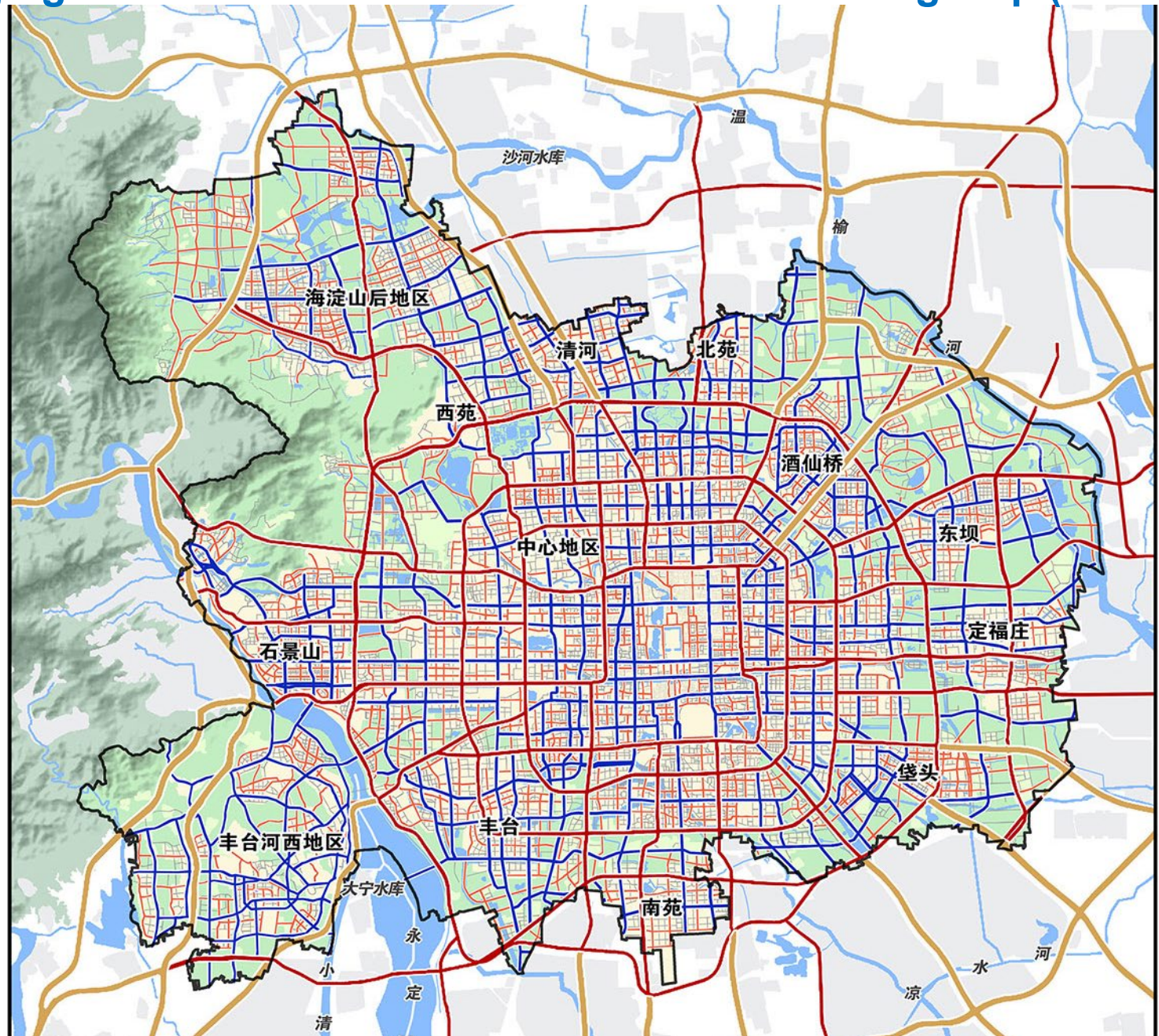
北京市域干线公路网及公路主枢纽规划图（2016-2035年）

Beijing Regional Trunk Road Network and Main Highway Hubs Planning Map (2016-2035)



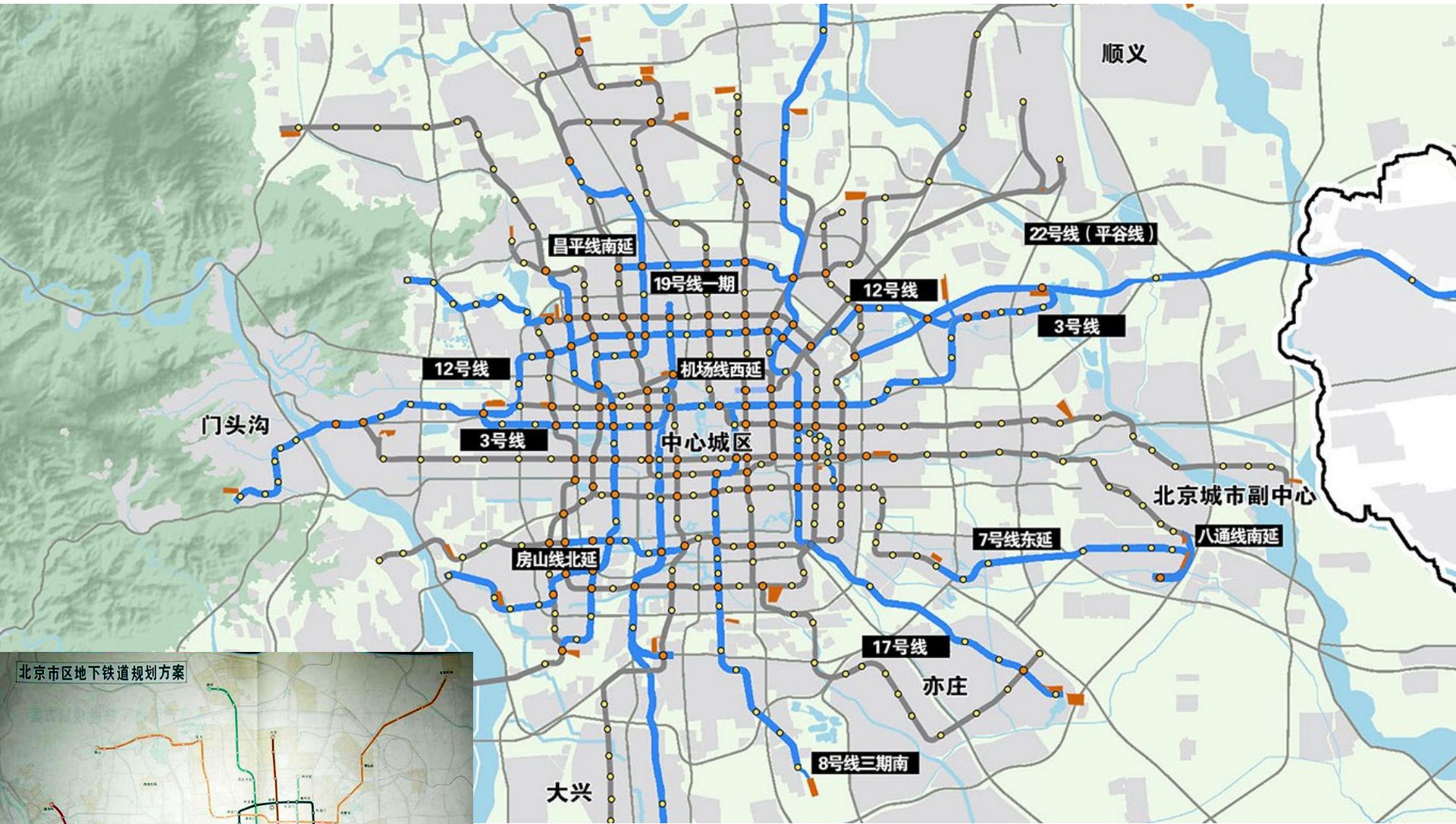
北京市中心城区道路网络系统规划图 (2016-2035年)

Beijing Central Urban Area Road Network Planning Map (2016-2035)



北京市轨道交通2021年规划示意图

Beijing Central City Urban Rail Transit Plan (2021 Diagram)

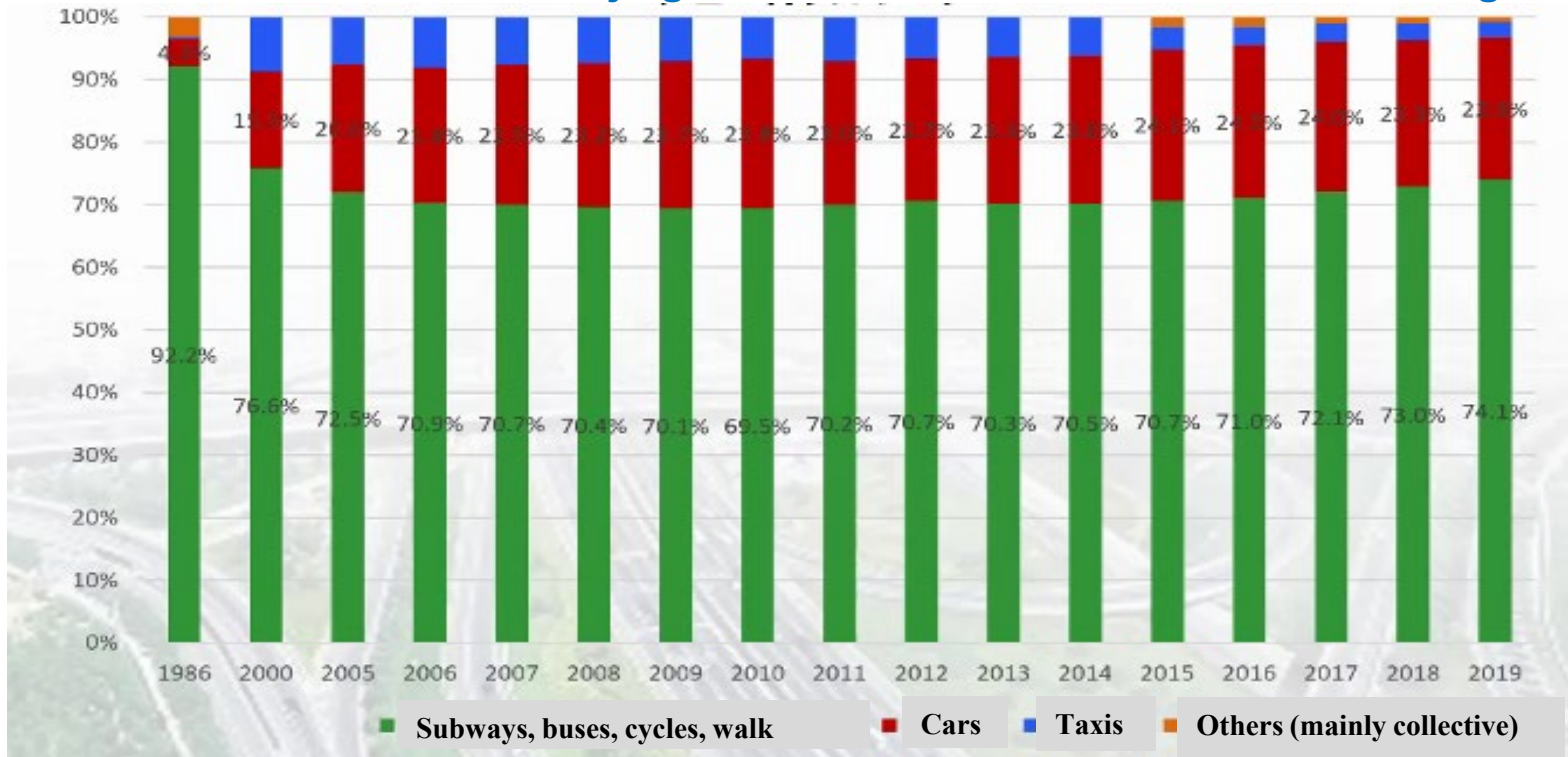


Beijing Subway Plan 1980

Beijing first subway line opened in 1971 with 23.6 km. In 1980, eight lines were planned with total length of 236 km. The new master plans to build a green + smart transport system, increasing to about 1,000 km by 2020, and 2,500 km by 2035.

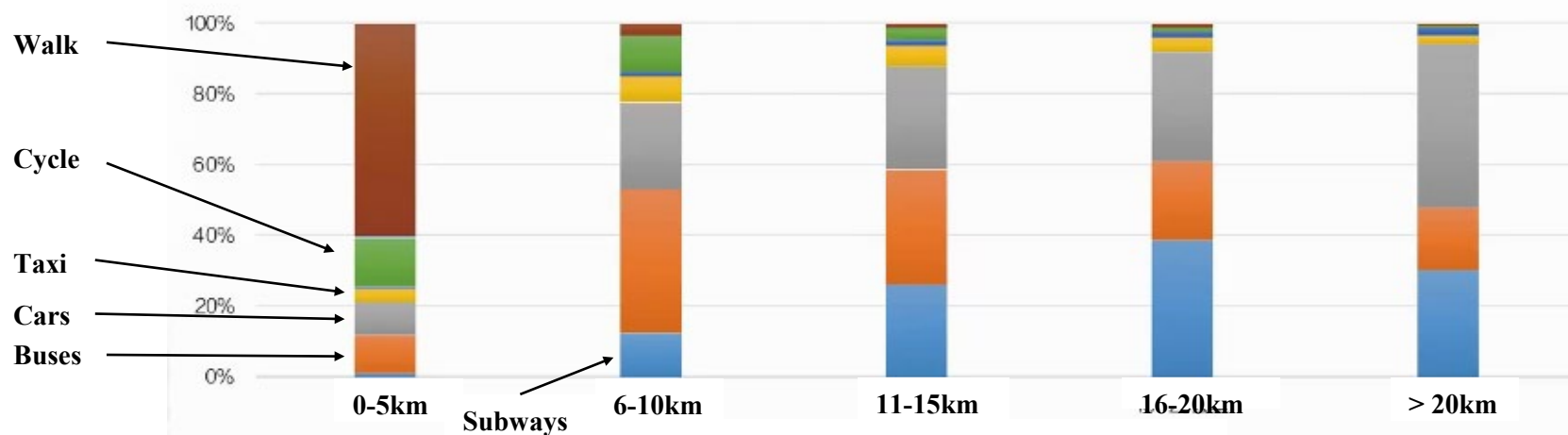
北京市绿色出行分担率1986-2019

Beijing's travel mode shares within the 5th Ring Road (trips)



城市不同距离出行方式构成

Composition of the mode share (trips) by distance range 2019



谢谢听讲！

Many Thanks