Beijing: Towards a World City with Culture-enriched, Hi-tech and Green Transportation System

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Beijing: Towards a World City with a People's, Hi-tech and Green Transportation System.

Introduction of BTRC

- ✓ Developing Urban Transportation Strate ng
- ✓ Investigating the critical issues and bott transportation system and recommending measures
- ✓ Coordinating relevant departments and institutions on their research and findings of Beijing Transpor
- ✓ Collecting, compiling and publis tion on transportation of Beijing, includi nsportation Report.

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Introduction of BTRC

- ✓ Transport Development Strategy
- ✓ Traffic Planning
- ✓ Intelligent Transport Systems (ITS)
- ✓ Public Transport
- ✓ Olympic Games' Transport
- ✓ Congestion evaluation and Relieving measures
- ✓ Modeling
- ✓ ...

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Introduction of BTRC

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Layout

- Introduction
- Changes of transportation system in the last 10 years
- Current Situation
- Solutions

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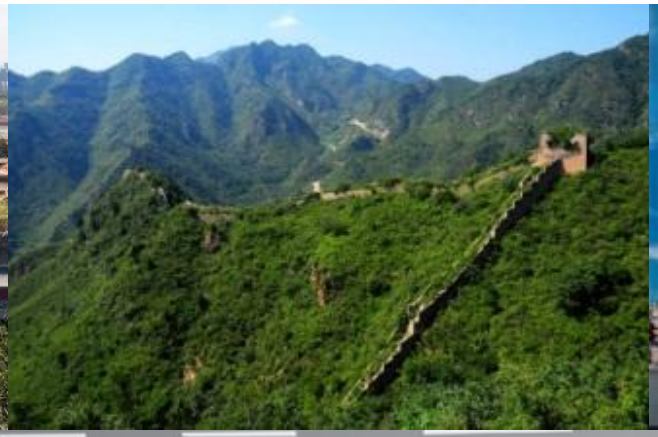
Introduction

- A time-honored city:

  human tracks over 700,000 years

  city history over 3,000 years (from the 11th century BC)

  national capaital over 850 years (from 1276AD)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Introduction

- A time-honored city
- A political, econmic, transport, cultral center




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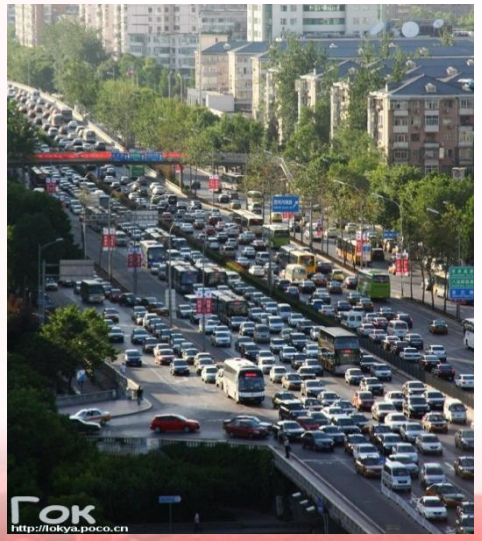
Introduction

- A time-honored city:
- A political, cultral center
- A vital city



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Introduction

- A time-honored city:
- A political, cultral center
- A vital city
- Planning: towards a World City

  Paris, London, Tokyo, New York

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Changes of transportation system 2000-2010

- Massive construction

  urban roads: 3,786 *km* → 6,355 *km*

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Changes of transportation system 2000-2010

- Massive construction

  urban roads: 3,786 *km* → 6,355 *km*

  expressway: 499 *km* → 903 *km*

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Changes of transportation system 2000-2010

- Massive construction

  urban roads: 3,786 *km* → 6,355 *km*

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  normal road: 13,954 *km* → 21,113 *km*

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Changes of transportation system 2000-2010

- Massive construction

  urban roads: 3,786 *km* → 6,355 *km*

  expressway: 499 *km* → 903 *km*

  normal road: 13,954 *km* → 21,113 *km*

  9 passenger hubs and a number of transfer centers


Zoo hub


Tian Tong Yuan
North Station P+R

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Changes of transportation system 2000-2010

- Public transport priority policy
  - Important strategic position
  - Non-profit character
  - Priority in land allocation for facilities
  - Priority in investment arranging
  - Priority in right-of-way on road
  - Priority in finance and taxation

A convenient, efficient and coordinated public transport system

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Changes of transportation system 2000-2010

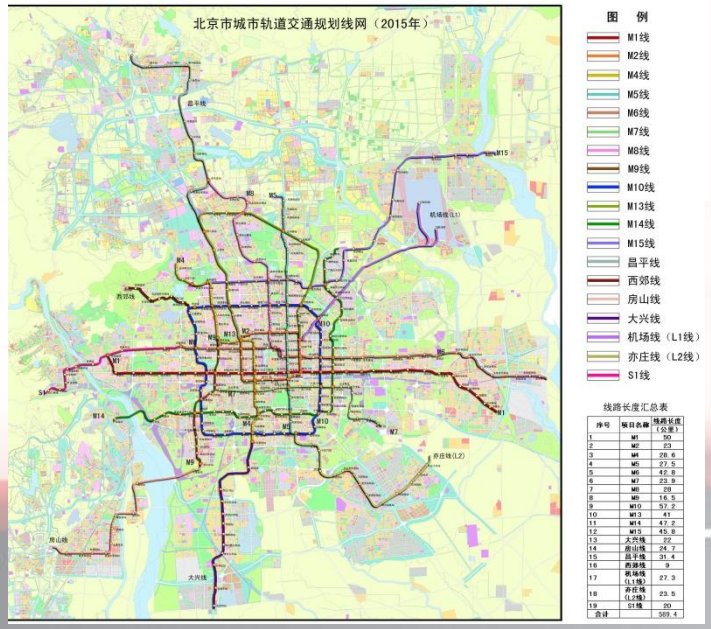
- Public transport priority policy

  More metro lines:

  2 lines 54 *km* → 14 lines 336 *km*

  6 lines under construction

  2015: 19 lines, 589.4 *km*



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Changes of transportation system 2000-2010

- Public transport priority policy

  More metro lines: 2 lines 54 *km* → 14 lines 336 *km*

  Shortening the headway:

Metro Line	Headway		
Line 1	3 min	→	2 min 15 sec
Line 2	2 min45 sec	→	2 min
Line 5	4 min	→	2 min 50 sec
Line 13	4 min	→	3 min
Ba Tong Line	4 min	→	3 min

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Changes of transportation system 2000-2010

- Public transport priority policy

  More metro lines: 2 lines 54 *km* → 14 lines 336 *km*

  Shortening the headway

  Updating the carriage: air-conditioned, higher capacity

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Changes of transportation system 2000-2010

- Public transport priority policy

  BRT lines: 3 lines, 55 *km*

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Changes of transportation system 2000-2010

- Public transport priority policy

  BRT lines: 3 lines, 55 *km*

  Dedicated bus lane: 100 links, 294 *km*

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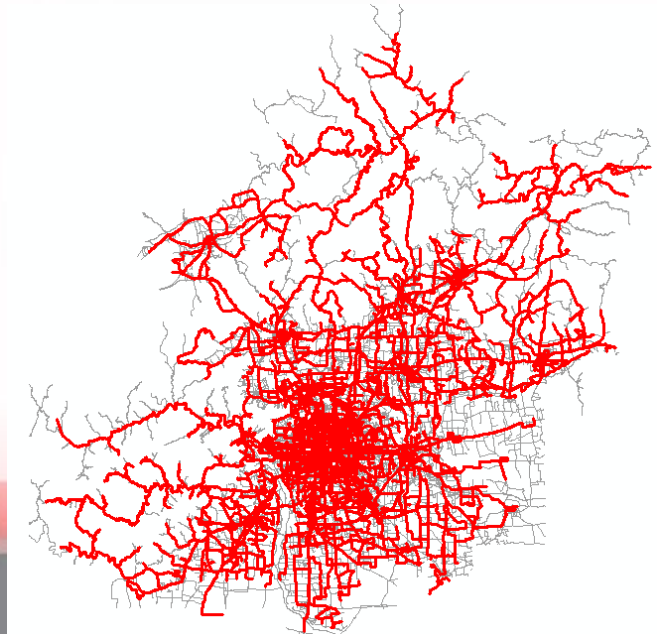
Changes of transportation system 2000-2010

- Public transport priority policy
  - BRT lines: 3 lines, 55 *km*
  - Dedicated bus lane: 100 links, 294 *km*
  - Optimizing bus lines: 713 lines, 18743 *km*



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Changes of transportation system 2000-2010

- Public transport priority policy

BRT lines: 3 lines, 55 *km*

Dedicated bus lane: 279.7 *km*

Optimizing bus lines: 713 lines, 18743 *km*

Updating buses: all 21,548 buses match Europe III Emission Standard

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Changes of transportation system 2000-2010

- Public transport priority policy

Lowering the bus fare: with the IC card, passengers get 60% discount and students get 80% discount

IC Card

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Changes of transportation system 2000-2010

- Public transport priority policy

  Lowering the bus fare: discount with IC card

  Unifying the rail fare: 2 Yuan (0.31 US$) for a trip

Metro gate

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Changes of transportation system 2000-2010

- Traffic management

➢ Traffic demand control policy:

  ➢ Odd-even number plates restriction during Olympic Games 2008

  ➢ One day driving ban after Olympic Games

➢ Intelligent transportation system:


Traffic Control Center


Rail Control Center

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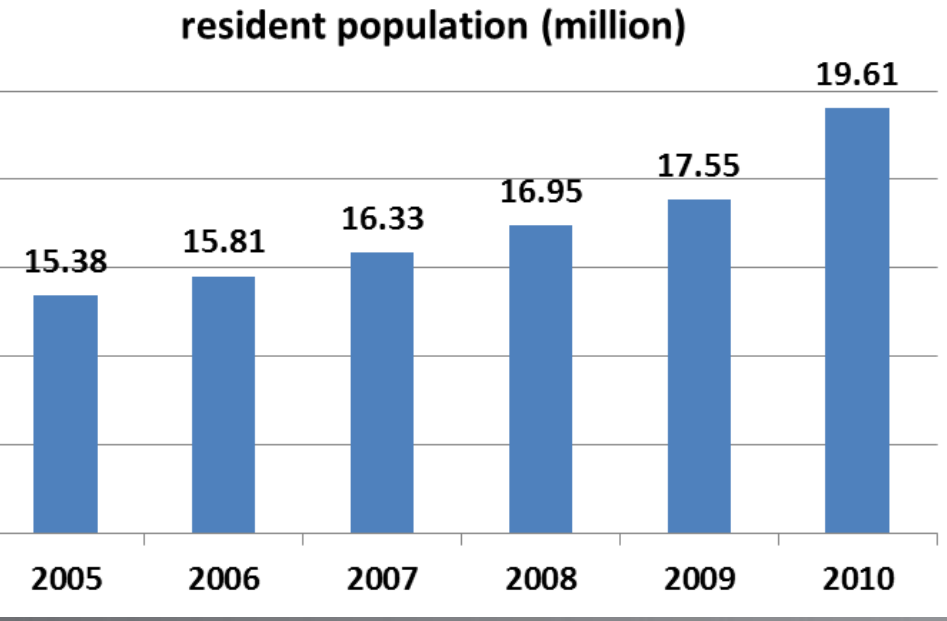
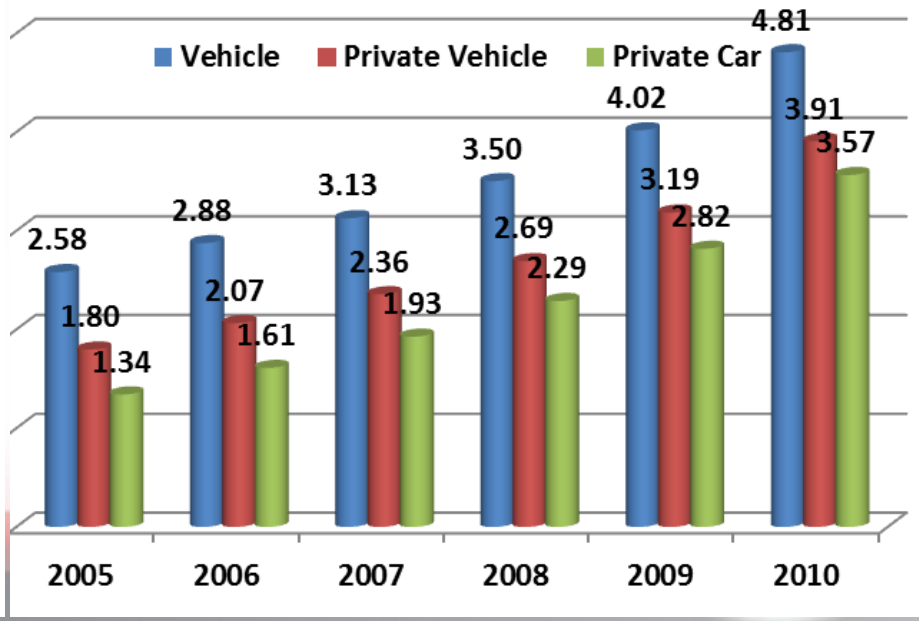
Current situation

- Population: 19.61 million resident population (> 6 months), 27.5% higher than that of year 2005
- Vehicles: 4.81 million (including 3.57 million private cars), 86.2% higher than that of year 2005





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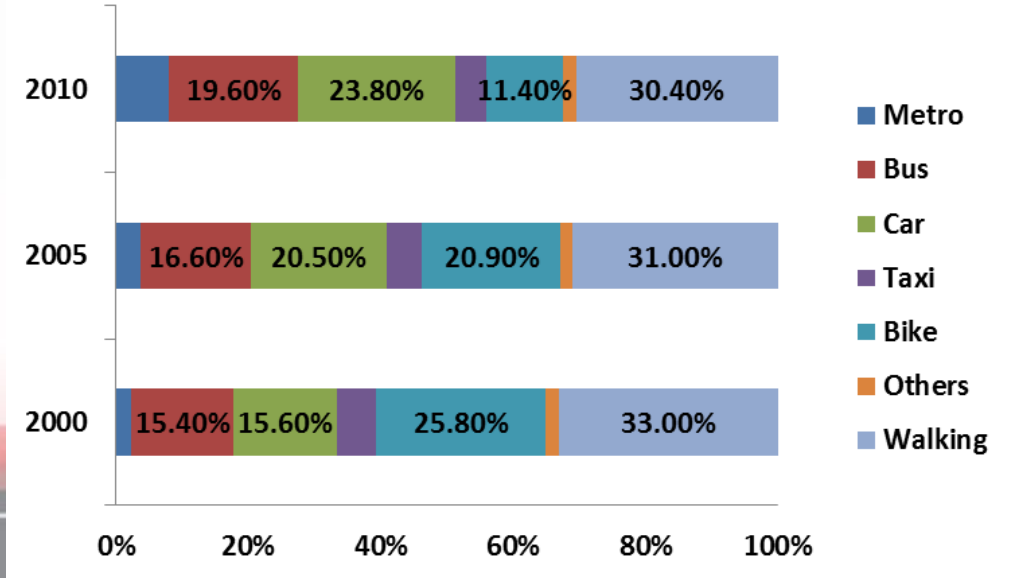
Current situation (within the 6th Ring: 13.9% area, 2282 km^2; 75% resident population, 14.65 million)

- Travel demand in 2010

  45.31 million trips, 313.85 million passenger kilometer turnover

  None-commuting trips: 53.8%

  Modal share shift



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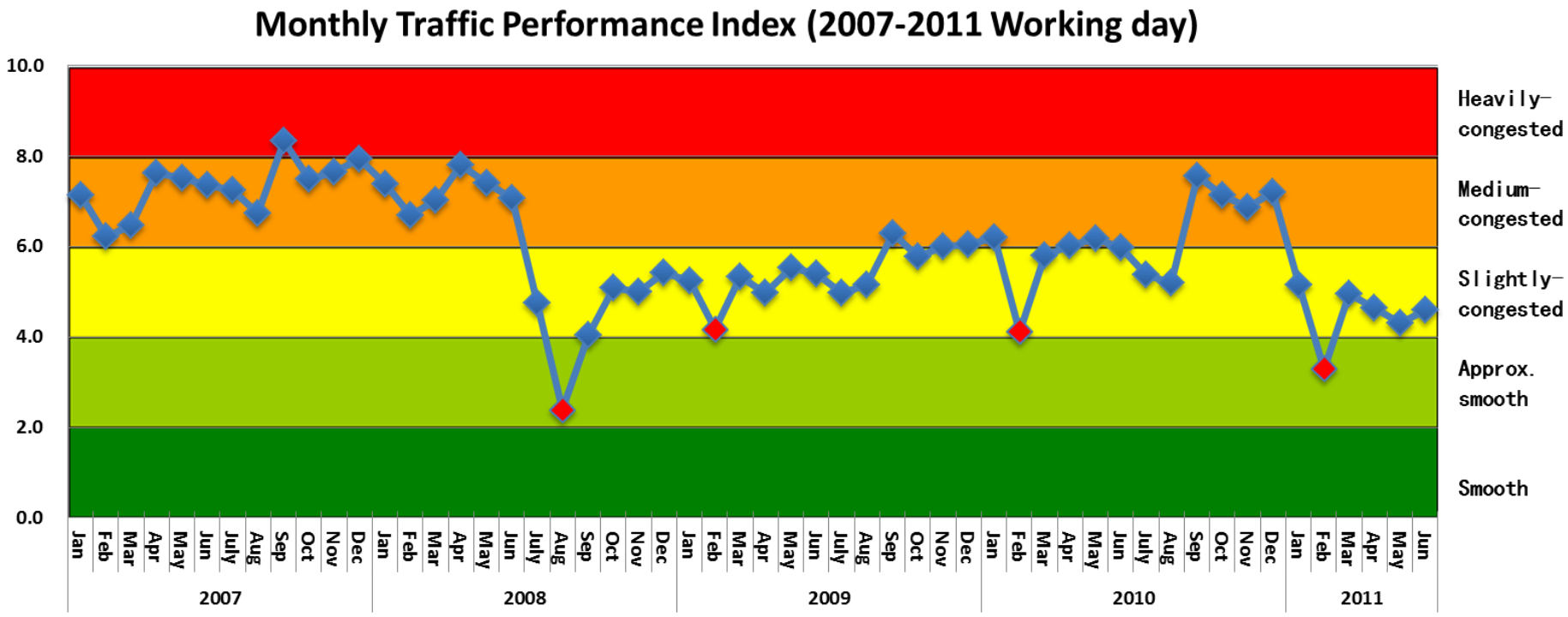
Current situation (within the 5th Ring: 4.1% area, 668 km^2; 49.4% resident population, 9.69 million)

- Traffic performance



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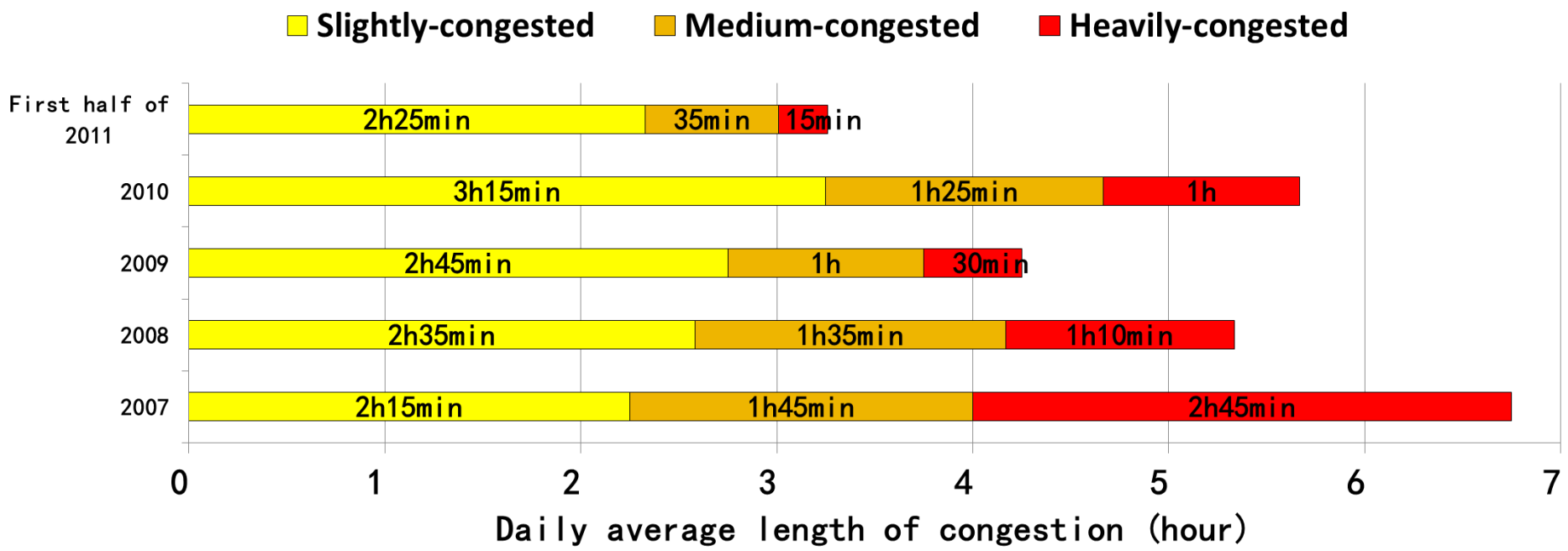
Current situation (within the 5th Ring: 4.1% area, 668 km^2; 49.4% resident population, 9.69 million)

- Traffic performance
- Congestion duration



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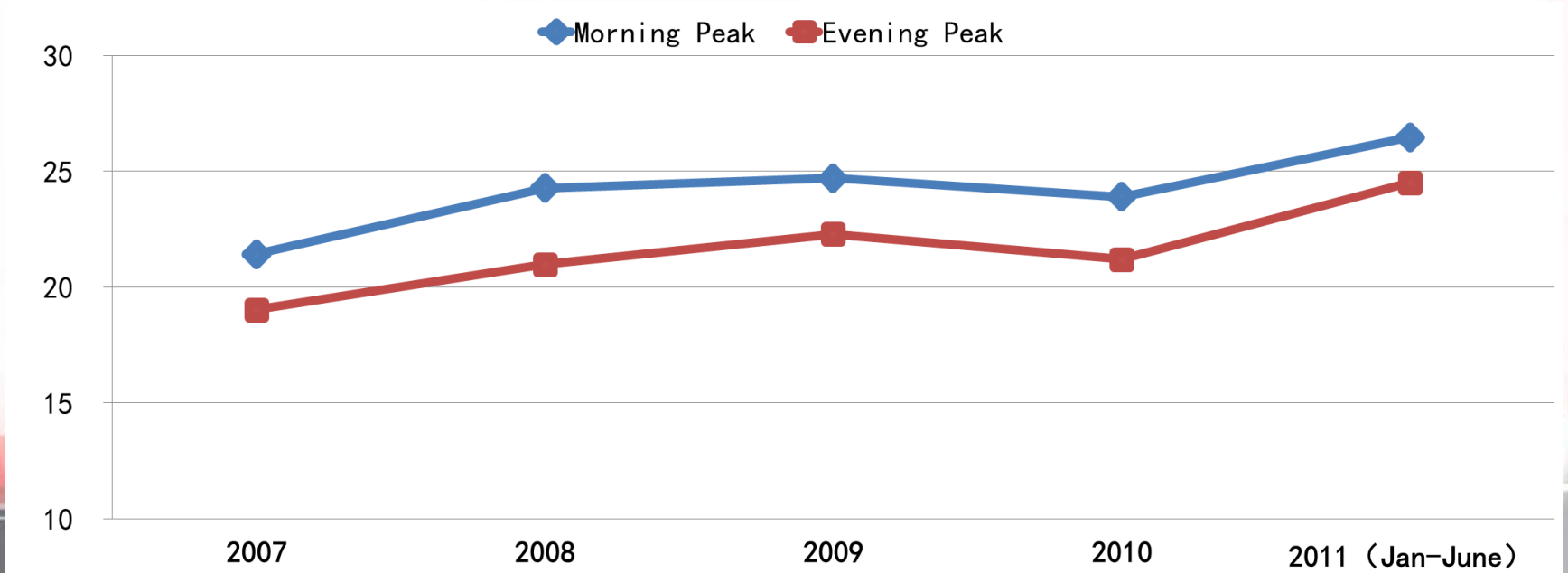
Current situation (within the 5th Ring: 4.1% area, 668 km^2; 49.4% resident population, 9.69 million)

- Traffic performance
- Congestion time length
- Network average speed



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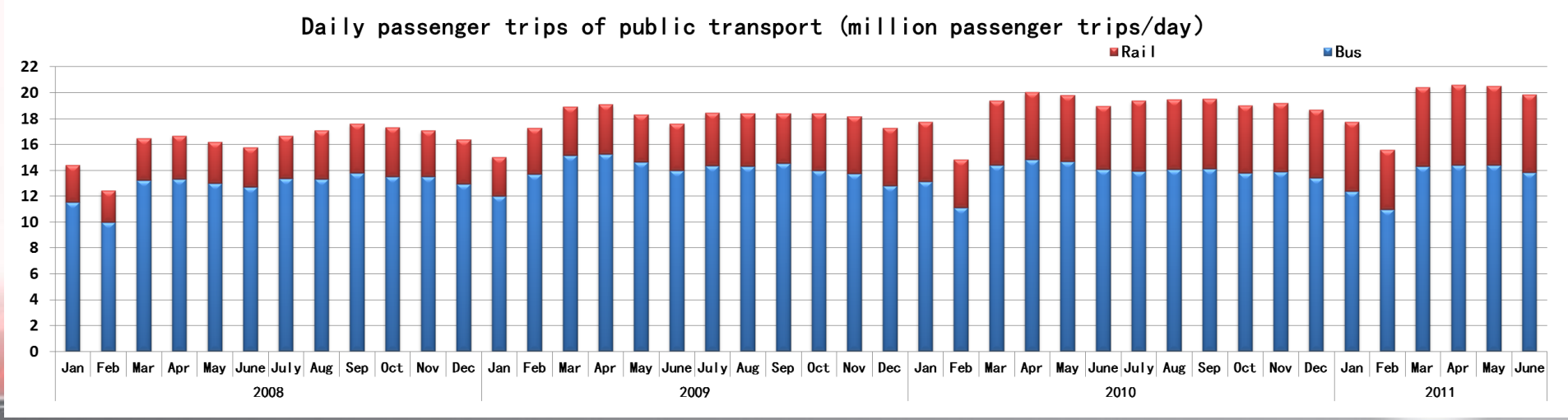
Current situation (within the 5th Ring: 4.1% area, 668 km^2; 49.4% resident population, 9.69 million)

- Traffic performance
- Congestion time length
- Network average speed
- Public transport system



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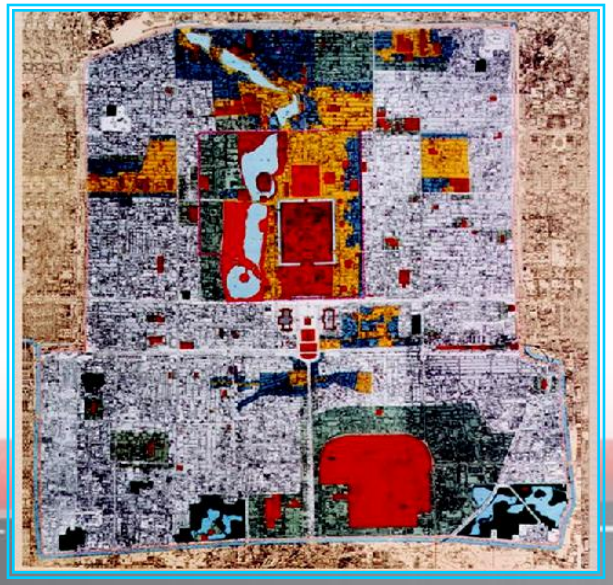
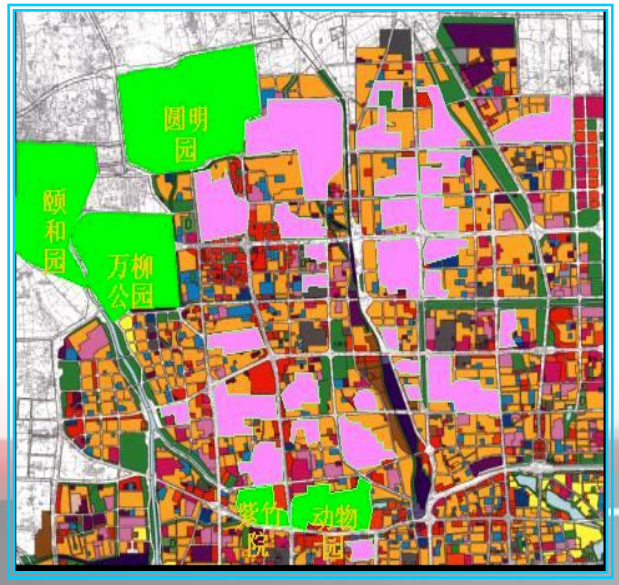
Current situation

- Challenge
  - Constraints for road network updating
  - Rapid increase of the population and vehicles
  - Rapid increase of travel demand





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Solutions

- On July 3rd 2009, 《Beijing action plan for constructing People's Transport, Hi-tech Transport, Green Transport (2009-2015)》 has been published. It aims at constructing a "New Beijing Transport System", and creating "Intensive Transport Metropolis".

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Solutions

- Development concept: New Beijing Transport System

  People's Transport: Culture-enriched

✓ To match socio-economic development

✓ To fit well with the historical and cultural scene

✓ To achieve harmony between public transport and urban development

✓ To achieve humanization in each step and detail

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Solutions

- Development concept: New Beijing Transport System

  People's Transport: Culture-enriched

  Hi-tech Transport: Technology-empowered

✓ To achieve informationization, intelligentization, and industrialization

✓ To improve the efficiency and service level

✓ To benefit the passengers

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Solutions

- Development concept: New Beijing Transport System

  People's Transport: Culture-enriched

  Hi-tech Transport: Technology-empowered

  Green Transport: Environment-friendly

✓ Building more public transport and non-motorized system to encourage low-carbon travel modes

✓ To popularize low consumption and low emission vehicles

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Solutions

- Development actions

I. Promoting 'Intensive Transport Metropolis' construction

- ✓ Urban rail networking
- ✓ Ground bus line networking
- ✓ Convenient transfer service
- ✓ Walking and riding service
- ✓ Barrier Free service
- ✓ Urban logistic service

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Solutions

- Development actions

I. Promoting 'Intensive Transport Metropolis' construction

II. Promoting road network capac

- ✓ Urban arterial construction
- ✓ Micro-circulation improvement
- ✓ Suburb road construction
- ✓ Auxiliary transport facilities for r

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Solutions

- Development actions

I. Promoting 'Intensive Transport Metropolis' construction

II. Promoting road network capacity increase

III. Promoting transport informationization construction

- ✓ Integration of transport information resources
- ✓ Intelligent decision-support system for traffic management
- ✓ Intelligent traffic control system
- ✓ Public transport information service

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Solutions

- Development actions

I. Promoting 'Intensive Transport Metropolis' construction

II. Promoting road network capacity increase

III. Promoting transport informationization construction

IV. Promoting technology innovation and industrialization

- ✓ Transport technology innovation
- ✓ Transport low consumption and low emission
- ✓ Rail facilities industrialization
- ✓ Dynamic traffic information service industrialization

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Solutions

- Development actions

I. Promoting 'Intensive Transport Metropolis' construction

II. Promoting road network capacity increase

III. Promoting transport informationization construction

IV. Promoting technology innovation and industrializtion

V. Promoting intensive transportation management

- ✓ Traffic operation optimization
- ✓ Traffic sign standardization
- ✓ Parking standardization
- ✓ Traffic order management
- ✓ Transportation safety security

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Solutions

- Development actions

I. Promoting 'Intensive Transport Metropolis' construction

II. Promoting road network capacity increase

III. Promoting transport informationization construction

IV. Promoting technology innovation and industrializtion

V. Promoting intensive transportation management

VI. Promoting travel civilization

- ✓ Travel civilization dissemination
- ✓ Green commuting campaign

谢谢！

Thank you!

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