

Beijing Traffic Congestion: Recent Moves are Too Little, Too Late

By Philip Andrews-Speed*

Modernisation and economic development brings many benefits to society and individuals, of which mobility is one. Yet, as Beijing and many other large cities around the world are finding, the private search for increased mobility actually leads to creeping immobility as average traffic speeds in peak periods plummet towards levels found in nineteenth-century cities where private transport was by horse-drawn carriage - about 15 kilometres per hour in London. Though Beijing may boast today an average peak period speeds of nearly 25 kilometres per hour, this is set to fall to London's levels by 2015.

At the end of 2010 there were 4.7 million registered vehicles in Beijing city, an additional 700,000 having been added during 2010 at a rate of 2,000 per day. In comparison 2009 saw an additional 550,000 vehicles. Altogether some 1.9 million vehicles have been registered in the city over the last four years.

Though this rate of growth is impressive, it is over-shadowed by vehicle sales at national level. Sales of passenger cars nationwide in 2009 rose by 53% to 10.3 million and total vehicle sales that year rose by 46% to 13.6 million. Provisional data for 2010 indicate the sales of passenger cars reached 13.7 million, up by 33%, and total vehicle sales broke through the 18 million threshold, up 32%.

Coming back to Beijing, though the rate of growth of vehicle sales is lower than the national average, the last two years of growth have had a dramatic impact on traffic congestion and travel times, despite the commissioning of several new subway rail lines. At the end of 2010, the Beijing Municipal Government decided to act by reducing the number of vehicle registrations in 2011 to just 240,000, some 34% of the total for 2010. The registrations will be decided by a monthly lottery, and entry to the lottery by private individuals will be restricted to those officially resident in Beijing. At the same time, vehicles without a Beijing registration will not be permitted to enter the city during rush hour. These rules supplement an existing scheme which blocks each car from entering the urban area on one working day each week, depending on the license plate number.

But, for every measure there is a counter-measure. Though the car salesman in Beijing may be down-hearted, the car rental agencies are likely to see a boom in business, as those who are unsuccessful in the lottery and those from out of town seek access to a vehicle.

But these actions are just tinkering on the margins of the problem. Given that traffic congestion in modern cities is not a recent phenomenon, but goes back several decades, one has to ask how Beijing (and some other Chinese cities) reached its current state of pervasive and growing traffic congestion.

In my view, the source of the problem lies in policy decisions and non-decisions taken in 1980s and 1990s. Let us first look at the automobile industry. In the 1980s China's government took steps to boost the quantity and quality of domestic vehicle production, in part through the establishment of joint ventures with foreign manufacturers. But, despite private ownership of vehicles being permitted since 1984, most new vehicles were for the commercial or government sectors.

In 1994, the government announced a strategy which was intended to make the automobile industry of one a few 'pillar' industries to become competitive in international markets. This required that private car ownership be encouraged. As a consequence, not only did total vehicle production rise, but, more significantly, the proportion of saloon cars expanded from about 8% in 1990 to about 60% today. Deliberate government policy and the individual aspirations of the newly affluent middle classes have thus converged.

But car ownership is not the same as car use in urban areas. So we must look at the transport policies of Beijing city. At the end of 2010, Beijing had 14 metro lines totalling 336 km, of which five suburban lines totalling 108 km opened on 31st December 2010. The city has a target of 560 km by 2015 and 1000 km by 2020.

But this surge of subway rail construction is only a recent phenomenon. The early development of the Beijing metro system was very slow. The first 28 km was opened in 1981. Another 16 km was added in 1984. In the period 1991 to 2000, further extensions took the total to about 55 km, on just two lines. The suburban railway system today comprises just one line, 86 km long opened in 2008. An additional six lines total 360 km are to be completed by 2020.

In contrast Beijing has five multi-lane ring roads totalling some 500 km, mainly constructed between 1990 and 2009, and the city acts as a hub to nine expressways and eleven national highways. Each day a total of some 20,000 buses are out on the city's roads, along some 500 routes. Meanwhile a combination of pollution, congestion and

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the use of cycle lanes by motor vehicles has reduced the proportion of Beijing's population using bicycles from 80% twenty-five years ago, to 20% today.

Thus, the current situation we see today has clear roots in deliberate government policies, dating back to the 1980s and 1990s, to design Beijing's urban expansion around the road rather than the rail and to promote private car ownership. The consequences for congestion and pollution may be unintended, but they are real just the same.

Beijing, and other cities, have placed themselves in a state which the social scientists call 'path-dependency'. The trajectory of the urban transport system today was determined by decisions made many years ago, and changing that trajectory becomes progressively more difficult as time goes on. The recent actions of Beijing's government are worthy steps, but you should not be surprised if another ten or twenty years pass before we see a marked and sustainable improvement in urban transport conditions in this city.

IAEE/Affiliate Master Calendar of Events

(Note: All conferences are presented in English unless otherwise noted)

Date	Event, Event Title and Language	Location	Supporting Organizations(s)	Contact
2012				
January 26-27	7th Spanish AEE Conference <i>Call for Papers Open until November 13</i> www.aeee.es/en/activities.php	Pamplona, Spain	SAEE	Enrique Loredó Fernández eloredo@uniovi.es
February 20-22	3rd IAEE Asian Conference <i>Growing Energy Demand, Energy Security and the Environment in Asia</i>	Kyoto, Japan	IEEJ	Kenichi Matsui kmatsuijr@aol.com
April 23-24	5th NAEE/IAEE Conference Energy Technology and Infrastructure for Sustainable Development	Abuja, Nigeria	NAEE	Adeola Adenikinju adeolaadenikinju@yahoo.com
June 24-27,	35th IAEE International Conference <i>Energy Markets Evolution under Global Carbon Constraints: Assessing Kyoto and Looking Forward</i>	Perth, Australia	AAEE/IAEE	Ron Ripple r.ripple@curtin.edu.au
September 9-12	12th IAEE European Conference <i>Energy Challenge and Environmental Sustainability</i>	Venice, Italy	AIEE/IAEE	Edgardo Curcio e.curcio@aiee.it
November 4-7	31st USAEE/IAEE North American Conference <i>Transition to a Sustainable Energy Era/ Opportunities and Challenges</i>	Austin, Texas	USAEE/CTAEE/IAEE	USAEE Headquarters usaee@usaee.org
2013				
April 8-9	4th ELAEE Conference Theme TBA	Montevideo, Uruguay	LAAEE/IAEE	Marisa Leon melon@adme.com.uy
June 16-20	36th IAEE International Conference <i>Energy Transition and Policy Challenges</i>	Daegu, Korea	KRAEE/IAEE	HoesungLee hoesung@unitel.co.kr
July 28-31	32nd USAEE/IAEE North American Conference <i>The Commercial-Government Interface of Energy Development</i>	Anchorage, Alaska	USAEE/IAEE	USAEE Headquarters usaee@usaee.org
August 18-21	13th IAEE European Conference <i>Energy Economics of Phasing Out Carbon and Uranium</i>	Dusseldorf, Germany	GEE/IAEE	Georg Erdmann georg.erdman@tu-berlin.de