

## ***London 2012 : Best public transport Olympics ever***

***By Prof. Philippe Bovy***

During the 2005-2007 bidding period, London was in competition with Paris, New York, Madrid and Moscow, all with outstanding transport issues to be resolved in the hope of hosting the 2012 Summer Olympic Games!

Since its successful Singapore bid acceptance in 2007, media criticized London for its transport system potential inability to meet Olympic Games transport challenges. Comparisons were often made with Beijing-2008 Olympics excellent transport performance and with Sydney-2000 Olympics that inspired London in many domains such as Olympic Park extraordinary regeneration concept and its innovative and client oriented traffic management strategies.

London 2012 transport delivery has been overwhelmingly recognized as a benchmark Games transport and traffic management success for seven interdependent strategic, operational and policy reasons.

### ***1. Coherence of Olympic Games concept and of rail transport major infrastructure and service upgrades particularly in East London***

At applicant bid level, London was qualified as having “an obsolete” rail public transport system. Thanks to strong local and central government transport planning decisions, London candidate bid incorporated very bold rail transport improvements concentrated on East London in coherence with Olympic Park development and other East London major venue deployment. Major rail system projects and actions were incorporated in the Plan with delivery due prior to 2016:

- new Stratford International station with high speed Javelin train stop 7 min from St Pancras,
- vastly refurbished Stratford Regional station interconnecting 7 rail lines,
- much developed and capacity improved East London DLR Dockland Railroad,
- capacity and reliability improvement of the Jubilee Line, London highest capacity tube facility.

All these major rail public transport improvements were tested and delivered for successful operations prior to Games time and enhanced with considerable well adapted Olympic way-finding signage.

The coherence of the Olympic Games concept with rail transport extended not only to East London, but throughout London with all urban venues accessible by at least one Tube station.

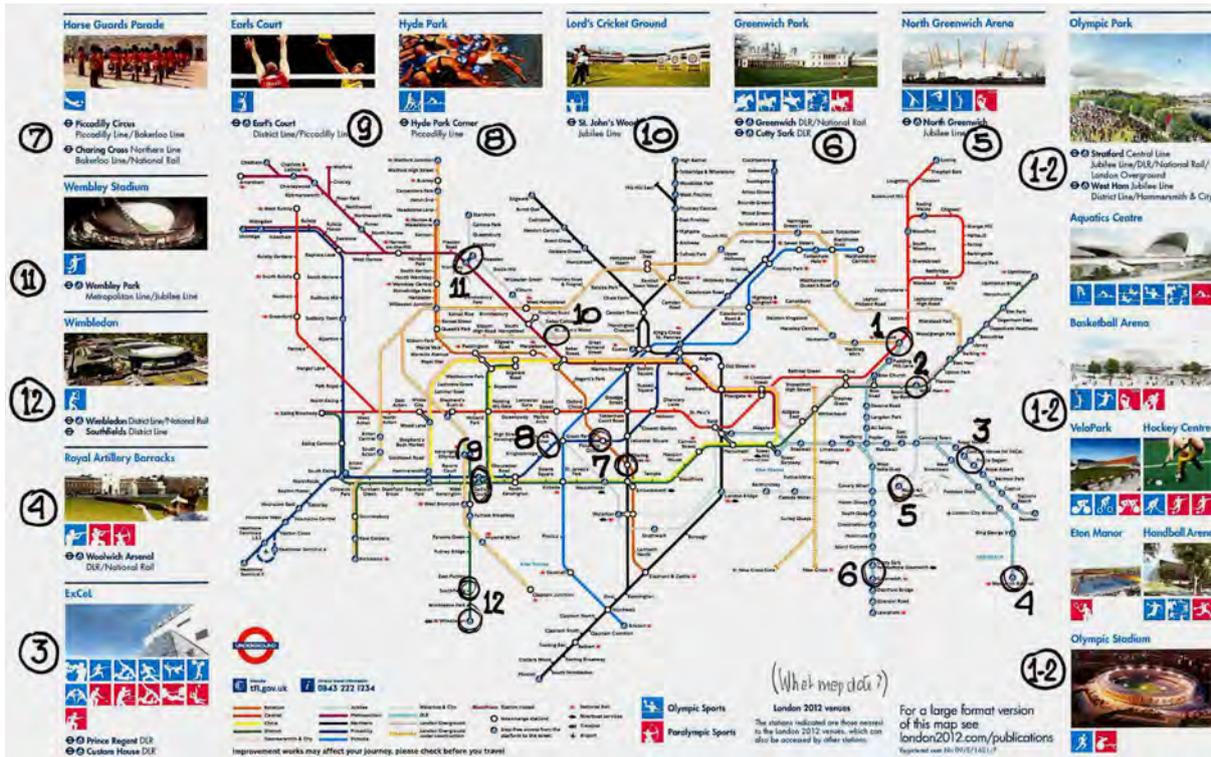
### ***2. Strong Games performance of London public transport, particularly of integrated rail transport at its best:***

- ***Rail public transport journeys systematically faster than road transport journeys.***
- ***The Tube and other rail transport served all urban venues with often more than one station access per Olympic venue***

During Games time, London rail transport worked efficiently with days at 4.5 million journeys, substantially higher than the maximum loads ever recorded.

Successful promotion of general public and Olympic travel towards public transport with distribution of more than 300'000 Oyster cards to Olympic accredited beneficiaries. Extended hours of service, elaborate tube Olympic signage with thousands of transport guidance volunteers helped achieve efficient and most convivial Games travel in London.

The overall successful TFL-Transport-for-London global transport management made rail public transport journeys faster than similar road journeys even using ORN. Many Olympic client groups switched to more faster and more reliable rail public transport particularly during Olympic road events in Central London. Offering Games arrival and departures to the world media community by fast Heathrow Express trains to London Centre instead of unreliable bus travel journeys is certainly a most appropriate premium way to host this client group. As a general Games concept, all London venues had been selected, planned and developed with rail access from often more than one station as shown in the map below.

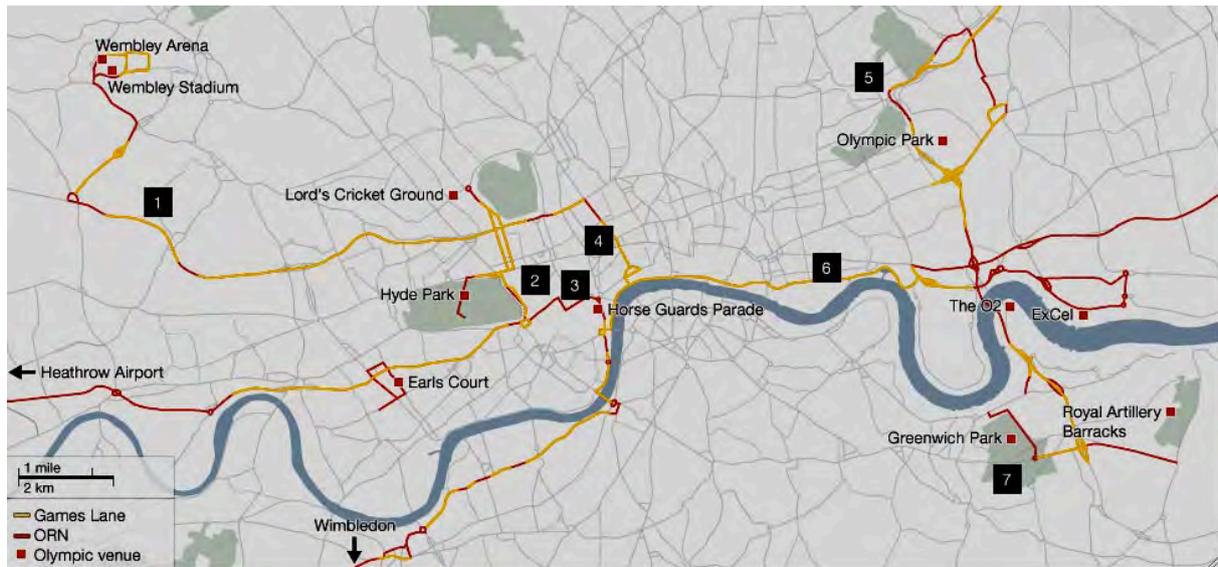


**3. Efficient London road network operation with “flexible” ORN- Olympic lane deployment adapted to British driving behaviour**

Irregular road patterns lacking multi-lane arterial facilities have made roadway integration of the ORN (Olympic Route Network) very complex both technically and from a local public and political acceptance viewpoint.

The system put in place worked better than expected including by TfL (Transport for London) own assessment. Connecting all urban venues, the system was composed of ORN stretches providing necessary guidance and some priorities for Olympic traffic and other stretches with reserved fully marked Olympic lanes where Olympic accredited traffic was the most frequent. It performed well taking into account British road user tolerance and flexibility. Stretches of Olympic fully reserved lanes were taken “on and off” depending on respective Olympic and non-Olympic road traffic loads, the policy being to open the system to all traffic as much as possible.

The map below shows the main Olympic venues and venue clusters connected to ORN-with Olympic lanes in yellow and ORN-without Olympic lanes in red.



The London Olympic lanes—parts of central ORN - were highly unpopular. They were considered as “undemocratic” by granting a special privilege to Olympic Family members and all kinds of VIPs. They were taking capacity away from already overloaded City traffic facilities and adding to congestion. But the ORN and Olympic lanes were indispensable to get athletes and support staff from the Olympic Village to competition venues in less than 30-45 minutes of comfortable reliable travel to keep the Games absolutely on time. But it is not sure that flexible Olympic lane mode of operations could be transferable to other countries with less disciplined drivers than those in the UK.



#### **4. TDM - Travel demand management successfully applied to substantially improve Games traffic conditions**

In the candidature bid, London promised a Games time background general traffic reduction of 20-25%. It would be obtained by a variety of traffic management measures, some of them first experimented during the Sydney 2000 Games and partly expanded during the Vancouver 2010 Games.

In traffic engineering jargon, measures to modify and reduce traffic, are called TDM—Travel demand management. It comprises a host of measures such as expanded school and business holidays, work-at-home programs, peak time travel avoidance, reduction and part time prohibition of freight, delivery and construction traffic.

For London 2012, it worked beyond expectations, with up to 30-32% reduction of background traffic. Newspapers had titles such as “Where did all commuters go?” on the first days of the Games.

A fully integrated combination of four main transport stream of actions:

- very strong rail public transport,
- flexible Olympic Lane network
- efficient travel demand management and
- last mile to venue careful transport integration planning

made London 2012 transport generally very successful and convivial, even according to very critical local and national media.

### **5. Olympic “last mile” competition venue integrated planning approach**

Olympic traffic during the Games is a small share of total metropolitan background traffic, but it becomes highly concentrated in space and time in areas surrounding competition venues where Olympic activities are focused.

Given the location of competition venues, often in dense urbanized and sometimes historical environments, subtle *last kilometre* (or last mile) detailed planning and local design approach was warranted and tailored to each specific venue. It involved, within a venue 1km traffic perimeter, proper management of all ingress-egress traffic flows by all client groups in a way to minimize impacts on the local nearby communities and activities.

Adequate way finding signage supported by traffic police and traffic volunteer staff coupled with strict no-parking enforcement policies for non-residents was in place for all competition venue sites. These intense efforts towards optimal co-existence of mega-event activities and surrounding communities have paid off, but implied a truly cooperative preparation planning and involvement at grass root level.

### **6. Urban rehabilitation and rail transport long term development legacies focused on East London, a most deprived part of the 2012 Host City**

The focus of the London 2012 concept on East London regeneration through new Olympic Park with bold East London rail line and rail station development and service major upgrades proved its efficiency under Games high travel demand pressures.

This system has been designed with reserve capacities for medium and long term sustainable development of environmentally friendly travel patterns. Thanks to Olympic deadlines and efficient governmental actions at all levels, these achievements have been made possible in less than seven years where two or three decades are generally the norm.

### **7. An exemplary 2012 Transport Plan**

ODA, the Olympic Delivery Authority, prepared, instructed, published and updated annual versions of the **“Transport Plan for the London 2012 Olympic and Paralympic Games”** since 2006.

The final edition was issued in June 2011 after broad consultation of hundreds of concerned authorities and stakeholders.

This excellent 240 page document is the foundation of all Games related transport system developments, Games transport policies for all client groups, competition venue access and last mile plans and extensive temporary traffic management policies designed to handle superposed background traffic and various client group traffic layers according to Games schedule.

The 18-chapter document typically deals with all aspects of the Olympic Games transport function:

1. *Introduction – consultation process*
2. *Background –scale and nature of transport challenges – Games schedule*
3. *Roles and responsibilities of organizations involved*
4. *Transport strategy*
5. *Arrivals and departures*
6. *Games Family transport*
7. *Spectator and workforce transport*
8. *Competition venues*
9. *Road events*
10. *Regional football stadia*
11. *Ceremonies and cultural events*

12. Freight transport
13. Transport safety strategic approach
14. Transport security and TCC -Transport Coordination Centre
15. Readiness for the Games – Contingency planning
16. Travel demand management – TDM
17. Sustainable transport
18. Transport legacy

This Transport Master Plan is obviously established in strong interaction and coherence with other Olympic functions such as Sport, Finance, Marketing, Media operations, Technology, Accreditation, Ticketing and City Operations to name a few.

## 8. London 2012 numbers and transport papers

Transport requirements are directly dependent on event frequency, amplitudes and participation. Key numbers are:

- 204 countries, 26 sports, 39 disciplines, 34 competition venues, 700 sessions with 302 medal events being held
- 10'575 athletes, 44% female, 5800 team officials, 2950 technical officials
- 8.0 million tickets sold
- Around 200'000 total workforce including 70'000 volunteers
- 24'275 accredited media
- 3.9 billion TV viewers
- In London more than 20 million Olympic spectator journeys were made including 3 million journeys on the Games busiest day

In a long term historical Athens 1896 to Rio 2016 perspective, Olympic Summer Games key numbers are shown below with London 2012 positioning 4 years prior to Rio 2016:

### Athens 1896 to Rio 2016 Olympic Summer Games key numbers

	1.Nb NOC.	2.Nb Events	3.Nb Comp.	4.% Female	5.Nb Medias	6.Nb Volunt	7.Nb Tickets	8.Nb TV.vw	9.Total TV rights
<b>1896 ATHENS</b>	<b>14</b>	<b>43</b>	<b>240</b>	<b>0</b>					
1924 Paris	44	126	3100	4					
1936 Berlin	49	129	4000	8					
1960 Rome	83	150	5300	12					
<b>1972 MUNICH</b>	<b>121</b>	<b>195</b>	<b>7100</b>	<b>15</b>					
<b>1984 LOS ANGELES</b>	<b>140</b>	<b>221</b>	<b>6800</b>	<b>23</b>	<b>9200</b>	<b>28000</b>	<b>5.7</b>	<b>2.5</b>	<b>285</b>
1988 Seoul	159	237	8500	26	11300	27000	3.3	---	400
<b>1992 BARCELONA</b>	<b>169</b>	<b>257</b>	<b>9400</b>	<b>29</b>	<b>13100</b>	<b>34000</b>	<b>3.0</b>	<b>---</b>	<b>835</b>
1996 Atlanta	197	271	10400	34	15100	47000	8.3	---	900
<b>2000 SYDNEY</b>	<b>200</b>	<b>300</b>	<b>10600</b>	<b>38</b>	<b>16000</b>	<b>47000</b>	<b>6.7</b>	<b>3.7</b>	<b>1330</b>
2004 Athens	202	301	10600	42	21500	45000	3.6	3.9	1495
<b>2008 BEIJING</b>	<b>204</b>	<b>302</b>	<b>10950</b>	<b>43</b>	<b>24600</b>	<b>70000</b>	<b>6.5</b>	<b>3.7</b>	<b>1730</b>
2012 London	204	302	10575	44	24275	70000	8.0	3.9	2600 (est)
<b>2016 RIO (10 est.)</b>	<b>203</b>	<b>302</b>	<b>10500</b>	<b>45</b>	<b>25100</b>	<b>70000</b>	<b>7.0</b>	<b>4.7</b>	<b>--?--</b>
1984/2016 growth (%)*	45	35	55	95	175	150	25	90	>800

**Legend** 1. Number of NOC – nations / 2. Number of competition events / 3. Number of athletes (±50)  
 4. Percentage of female athletes (%) / 5. Number accredited medias, press and broadcasters (±100)  
 6. Number of volunteers (±1000) / 7. Number of spectator tickets sold (±0,1million)  
 8. Number of world TV viewers (±0,1billion) / 9. Total TV rights (±5 mio US\$) / 10. Rio estimates

\*1984 LA to 2016 RIO, 32 year growth in percent (±5% or less) **PhBy / June 2013**

London 2012 immediate post Games reports, transport reviews and debriefing papers have been prepared by ODA (Olympic Delivery Authority), LOCOG (London Organizing Committee for the Olympic Games), London transport responsible agencies, IOC-OGKM (Olympic Games Knowledge Management) own program and others (see General Transport Bibliography—June 2013). Given the considerable sport and transport success of the Games and expected strong legacy impacts, more analysis, research and synthesis papers are expected in 2013 to be followed by OGI --the official Olympic Games Impact Study—planned for 2014 or 2015.

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