Transport strategic planning for football World Cup and other international mega tournaments

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This is the second part of a two part UITP Recife Seminar presentation entitled “Mega-events: catalysts for more sustainable transport development in Cities”

The first part deals with the Olympics, a mega-event characterized by:

**MANY SPORTS (>20) in ONE CITY**

This second part addresses transport and hospitality issues of mega-events characterized by:

**ONE SPORT hosted in MANY CITIES (>8)**

(FIFA World CUP, EURO football tournament, etc)
Large Stadium car and spectator crowd viewed by Sempé
Intro 1: Large mega-events = much higher expectations and logistical requirements

60’000 to 90’000 spectator matches take place every day / every week without major problems!

What differences of these “regular” events with world or continental tournament mega-events?

• A very significant share of guests, officials, VIP, sponsor related, fans and spectators are foreign / international instead of domestic attendance
• Much higher air and ground transport, accommodation, security and Host City hospitality requirements
• World media coverage with extremely high logistical quality requirements
Intro 2: Outstanding multi-scale travel demands and challenges

World or continental football tournaments create very strong but short duration transport and traffic peaks at each of the four critical levels:

1. **International** air travel to access Host country at various stages of the Tournament

2. **National** air and ground transport logistics between “X” Tournament Host Cities

3. **Host Cities** internal highly peaked demands on transport and accommodation systems

4. **Last kilometre** Stadium and fan zone accessibility and security management
Intro 3: Extremely high “last minute” logistical pressures

“Knock out” match outstanding challenges:

• Copa 2014 Host City “X” will know only “Y” days in advance that Argentina (A1) and Spain (C1) will play on day “Z” in Stadium “X”

• FIFA ticketing structure and FF ticket distribution will have about 17’500 sold tickets for A1 and 17’500 for C1 or a total of “W” % of Stadium net seated capacity (all numbers are purely indicative)

• Media and sponsor hospitality event influx add a critical load of 5000-7500 pax over 48 pre-match hours

• Although boosted to about 20’000 pax arrivals (about 125 aircrafts/day), Host City Airport cannot handle the total demand

• Mobilization of accommodations in all categories is mandatory to absorb about “V” % of Stadium and fan zone net capacity
Intro 4 : Only very robust public transport schemes can cope

Massive transport and traffic demands concentrated:

- **in time** / airport arrivals+ departures / Stadium and Fan zones entrances + exits
- **in space** / Airport-City Centre / Airport-Stadium / City Centre-Stadium

...call for **massive mobilization of existing and strongly re-enforced public transport capabilities** and often require **temporary automobile traffic and parking restrictions**
Intro 5: Host City generic transport system

MAIN TRAFFIC GENERATORS

- STADIUM and 7 transports links
- CITY CENTER
- HOTELS / ACCOMMODATIONS
- FAN ZONES / LIVE SITES

GATEWAYS + TERMINALS + STATIONS

- Airport
- Rail / Bus: main station
- Parking-car / bus + terminal
- Metro station
- Motorway access
ONE sport in many Cities

1. Football tremendous world success
2. Tournament structure
3. Package of seven key infrastructure and operational success components
4. World Cup 2006 and EURO 2008 tremendous public transport success
5. Host City mega event legacy
1. Football tremendous world success

- Football (soccer) most popular world sport -- very rapidly growing in Asia
- Multitude of football tournaments, championships, cups at all levels: regional, national, **continental-UEFA, world-FIFA**
- With the Summer Olympics, FIFA World Cup is the **largest most broadcasted world event** > 4,5 billion viewers
2. Tournament evolving structure

• Football mega tournament = ONE sport in many Host Cities during about 3 weeks
• A “third” of all matches are in a situation of logistical uncertainty “who is playing where, against whom, and when”
• Considerable “last day” transport demands (mostly by air)
## Tournament stadiums + teams + matches

<table>
<thead>
<tr>
<th></th>
<th>EURO 2016</th>
<th>FIFA 2010</th>
<th>FIFA 2014</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>N° Stadium</strong></td>
<td>8-9</td>
<td>10</td>
<td>12</td>
</tr>
<tr>
<td><strong>N° Teams</strong></td>
<td>24</td>
<td>32</td>
<td>32</td>
</tr>
<tr>
<td><strong>N° Matches</strong></td>
<td>51</td>
<td>64</td>
<td>64</td>
</tr>
<tr>
<td>+Group matches</td>
<td>36</td>
<td>48</td>
<td>48</td>
</tr>
<tr>
<td>+Knock-out match</td>
<td>15</td>
<td>16</td>
<td>16</td>
</tr>
<tr>
<td><strong>N° Matches/Stadium</strong></td>
<td><strong>Min/Maximum</strong></td>
<td>4-7</td>
<td>4-8</td>
</tr>
</tbody>
</table>
Tournament 24 team schedule

- **Group Phase**: 36 matches
  - **Group A**: Team 1, Team 2, Team 3, Team 4
  - **Group B**: Team 1, Team 2, Team 3, Team 4
  - **Group C**: Team 1, Team 2, Team 3, Team 4
  - **Group D**: Team 1, Team 2, Team 3, Team 4
  - **Group E**: Team 1, Team 2, Team 3, Team 4
  - **Group F**: Team 1, Team 2, Team 3, Team 4

- **Round of 16**: 8 matches
  - 1 vs 2, 3 vs 4, 5 vs 6, 7 vs 8

- **Quarter-Finals**: 4 matches
  - SF 1: QF 1 vs QF 2
  - SF 2: QF 3 vs QF 4

- **Semi-Finals**: 2 matches
  - SF 1 vs SF 2

- **Final**: 1 match
  - Final vs SF 1/2 winner
# MATCH SCHEDULE 2010 FIFA World Cup South Africa™

<table>
<thead>
<tr>
<th>Group Matches</th>
<th>Round of 16</th>
<th>Quarter Finals</th>
<th>Semi Finals</th>
<th>3/4 Place and Final</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Johannesburg</strong>&lt;br&gt;Soccer City</td>
<td>5 12:00</td>
<td>9 12:30</td>
<td>13 14:30</td>
<td>Rest Days</td>
</tr>
<tr>
<td><strong>Johannesburg</strong>&lt;br&gt;Ellis Park</td>
<td>5 12:30</td>
<td>9 15:00</td>
<td>13 17:30</td>
<td>Rest Days</td>
</tr>
<tr>
<td><strong>Nelspruit</strong>&lt;br&gt;Mbombela</td>
<td>9 18:00</td>
<td>13 00:30</td>
<td>17 03:00</td>
<td>Rest Days</td>
</tr>
<tr>
<td><strong>Rustenburg</strong>&lt;br&gt;Royal Bafokeng</td>
<td>5 12:30</td>
<td>9 15:00</td>
<td>13 17:30</td>
<td>Rest Days</td>
</tr>
<tr>
<td><strong>Mangaung/Bloemfontein</strong>&lt;br&gt;Free State</td>
<td>9 18:00</td>
<td>13 00:30</td>
<td>17 03:00</td>
<td>Rest Days</td>
</tr>
<tr>
<td><strong>Cape Town</strong>&lt;br&gt;Green Point</td>
<td>5 12:30</td>
<td>9 15:00</td>
<td>13 17:30</td>
<td>Rest Days</td>
</tr>
<tr>
<td><strong>Durban</strong>&lt;br&gt;Durban</td>
<td>5 12:00</td>
<td>9 12:30</td>
<td>13 14:30</td>
<td>Rest Days</td>
</tr>
<tr>
<td><strong>Polokwane</strong>&lt;br&gt;Peter Mokaba</td>
<td>5 12:30</td>
<td>9 15:00</td>
<td>13 17:30</td>
<td>Rest Days</td>
</tr>
<tr>
<td><strong>Nelson Mandela Bay/Port Elizabeth</strong>&lt;br&gt;Nelson Mandela Bay</td>
<td>5 12:30</td>
<td>9 15:00</td>
<td>13 17:30</td>
<td>Rest Days</td>
</tr>
<tr>
<td><strong>Tshwane/Pretoria</strong>&lt;br&gt;Lotto Versfeld</td>
<td>5 12:00</td>
<td>9 12:30</td>
<td>13 14:30</td>
<td>Rest Days</td>
</tr>
</tbody>
</table>

Match numbers and provisional kick-off times will be confirmed in due course.

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**FIFA Partners**

- adidas
- Coca-Cola
- Emirates
- Hyundai
- SONY
- VISA

**FIFA World Cup Sponsors**

- Budweiser
- Castrol
- Continental
- McDonald's
- MTN
- Satyam

**FIFA.com**

**National Supporters**

- FNB
- Nike
- prasa
- Telkom
- 20-centres
Transport demands and ticketing

Ticketing systems and policies play a paramount role in multi-client transport and accommodation forecasting, management and logistics

- Matching tournament ticket supply (more than 2.5 million for 64 matches) with local/national/international spectator demands is an extremely complex multi-phase process defined mega-event by mega-event

- Essential to conduct client travel demand simulations in function of ticketing configurations at all four transport system levels--International, National, Host City and Stadium approach--
Increasing logistical requirements

Case of EURO 2016 (bidding process):

- **4 Host Stadium net capacity categories**: >30'000, >40’000, >50’000, >60’000
- Decreasing number of matches but increasing logistical complexity from category I to IV / also increasing transport and accommodation demands:
  - **Cat I**  Group matches
  - **Cat II**  Round of 16 matches
  - **Cat III**  QF + SF matches
  - **Cat IV**  FINAL + Opening match + “X” Home team matches
# Tournament structure

<table>
<thead>
<tr>
<th></th>
<th>GROUP MATCH</th>
<th>ROUND OF 16</th>
<th>QF + SF</th>
<th>FINAL (Htm+Om)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>NUMBER OF MATCHES</strong></td>
<td>36 (-1)</td>
<td>8</td>
<td>6</td>
<td>1 (+1/3)</td>
</tr>
<tr>
<td><strong>INCREASE OF LOGISTICAL REQUIREMENTS</strong></td>
<td>I</td>
<td>II</td>
<td>III</td>
<td>IV</td>
</tr>
<tr>
<td><strong>TOURNAMENT STADIUM</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>net capacities and numbers</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sup 60’000</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sup 50’000</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sup 40’000</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sup 30’000</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>STADIUM size use</strong></td>
<td>All</td>
<td>All</td>
<td>Only &gt; 40’000 &gt; 50’000</td>
<td>Only &gt; 50’000 &gt; 60’000</td>
</tr>
</tbody>
</table>

**Notes:**  
Htm = Home team match  
Om = Opening match  
Source: from UEFA 2016 Bidding Manual  
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From group matches to...FINAL

- Basic spectator transport and accommodation demands increase linearly with Stadium size
- But **logistical requirements for accredited client groups increase almost exponentially** with the four competition levels:
  - “Group match” logistics can be reliably pre-planned
  - “Knock out matches” require systematic re-planning of crucial functions, such as air transport
Increased logistical requirements

<table>
<thead>
<tr>
<th></th>
<th>GROUP MATCH</th>
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<tbody>
<tr>
<td><strong>INCREASE OF LOGISTICAL REQUIREMENTS</strong></td>
<td>I</td>
<td>II</td>
<td>III</td>
<td>IV</td>
</tr>
<tr>
<td><strong>TICKETING</strong></td>
<td>Early distribution</td>
<td>Last minute spectator group world distribution</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>ACCOMMODATION</strong></td>
<td>2'600</td>
<td>2'800</td>
<td>QF 3'200</td>
<td>Om 4'000</td>
</tr>
<tr>
<td>Accredited Official + VIP + corporate hospitality (Number of 4 + 5 star rooms)</td>
<td></td>
<td></td>
<td>SF 5'000</td>
<td>Final 7'200</td>
</tr>
<tr>
<td>Non-accredited T spectators, T fans, NT visitors</td>
<td>Wide variety Early booking</td>
<td>Increasing high demands / last minute bookings / same day fly in + fly out</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TRANSPORT GLOBAL ORGANIZATION</strong></td>
<td>Fully pre-planned</td>
<td>Re-planning in function of match schedule progress “who is playing where, against whom and when”</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>AIRPORT TRANSPORT DEMANDS</strong></td>
<td>Arrivals + departures spread over 2-3 days</td>
<td>Highly concentrated air travel demands on last 12 hours prior and after match</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>SPECTATORS AND FAN TRANSPORT DEMANDS</strong></td>
<td>In function of Stadium size, ticketing structure, accommodation availability and fan zone hospitality</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>MEDIA ACTIVITY AND TRANSPORT DEMANDS</strong></td>
<td>Moderate intensity spread over all Host Cities</td>
<td>High intensity spread over all Host Cities</td>
<td>Extremely high intensity concentrated on QF + SF + FINAL Host Cities</td>
<td></td>
</tr>
</tbody>
</table>

Notes:  
Htm = Home team match  
Om = Opening match  
T = Ticketed  
NT = Non ticketed  

Source: from UEFA 2016 Bidding Manual  
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3. Seven most critical challenges

During bidding phase, seven infrastructure parameters, out of 20, account for 65-70% of evaluation results:

1. Stadium and specific tournament overlay
2. Airport capacity / flexibility + Airport - City linkage
3. Ground transport + Stadium last kilometre access
4. Accommodation for accredited
5. Accommodation for ticketed and general public
6. Host City global hospitality and fan zones
7. Safety and Security
What key logistical challenges?

- A FIFA or UEFA “validated” Stadium with all proper tournament hospitality, media, technology and security overlay is not enough

- World Cup, EURO and other international mega tournaments are the “toughest” possible mega-events on airport operations due to abrupt “difficult to forecast” air travel demands

- Very abrupt last days accommodation demands combined with insufficient air capacities often makes football mega-event planning a nightmare

- “Airport potential overloads” and “accommodation shortages” are the most crucial challenges
Host City bid package reliability

• Meeting all City hosting package requirements is crucial for event success
  – Stadium + tournament specific overlay
  – Airport + ground transport adequate operations
  – Accommodation for accredited and for general public
  – General hospitality and fan zones/live sites
  – Security

• Existing capabilities with guaranteed improvements are not always sufficient: gaps shall be identified and resolved
Host City evaluation

REQUIREMENTS PER DOMAIN / PER COMPETITION LEVEL

FINAL

QF + SF

R - 16

GROUP MATCHES

HOST CITY ‘X’ TARGET

Legend:
- Yellow: GAP
- Red: GUARANTEED IMPROVEMENTS
- Blue: EXISTING CAPACITY CAPABILITIES

1. STADIUM + OVERLAY
2. AIRPORT CAPACITY
3. GROUND TRANSPORT ACCESS
4. ACCOMMODATION OFFICIAL
5. ACCOMMODATION GEN. PUBLIC
6. HOST CITY HOSPITALITY + FAN ZONES
7. SAFETY SECURITY

IN CASE OF HOST CITY PROXIMITY SOME FACILITIES CAN BE JOINTLY USED SUCH AS 2 AIRPORT AND 4 OFFICIAL ACCOMMODATION

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Host City evaluation indicators

Quality and reliability of competing Cities to host the mega-event are to be evaluated in three steps:

• **Assessment of existing capabilities** in all key infrastructure and logistical domains
• **Reliability of improvement projects** and assessment of guarantees’ solidity
• **Gap identification** domain per domain

If Host City “X” gaps are significant and too many, City “X” shall be downgraded to a lower Tournament phase or replace by another Host City
Host City key internal transport tasks

• Provide **reliable accessibility to and from Host City key activity centres**: Stadium / Airport / Bus+ rail terminals / City Centre / Hotel areas / Fan zones
• Temporarily or permanently **increase transport capacities and quality of service** on strategic mega-event transport links
• Integrate short term transport improvements in the City long term development Plan
• Grant **priority to public transport projects**
Host City transport system

MAIN TRAFFIC GENERATORS
- STADIUM and 7 transports links
- CITY CENTER
- HOTELS / ACCOMMODATIONS
- FAN ZONES / LIVE SITES

GATEWAYS + TERMINALS + STATIONS
- Airport
- Rail / Bus: main station
- Parking-car / bus + terminal
- Metro station
- Motorway access
4. World Cup 2006 and EURO 2008 outstanding public transport success

Host countries are never fully comparable -- Last football mega tournaments took place in Germany, Austria and Switzerland, countries with very strong public transport systems including rail at all scales

Main features:

• Much higher public transport usage than expected
• Success of free all day (or even 36 hour) public transport for all accredited and ticketed guests/spectators
• Much lower Stadium car parking usage than planned (generally less than 1500 cars/Stadium)
Non-ticketed or NT visitor phenomenon

- Since 2006 World Cup in Germany, a growing market of fans and visitors come to enjoy the event without hopes of getting tickets
- Free public viewing areas / fan zones are integrated in the event at strategic attractive City locations
- Fan zones should be planned to relieve traffic and crowd pressures from Stadium access areas
- Non ticketed visitors and fans can number as much as 3 to 7 times the Stadium spectator capacity
5. Host City mega event legacies

A coherent Host City mega event “hosting package” might provide positive transport and sport legacies:

- **Improved Host Stadium** quality / security with surrounding urban rehabilitation
- **Improved Host Airport** capacity / security, better public transport and road secured link to City
- **Substantially “boosted” public transport integrated system**
- **More integrated and sustainable** City and metropolitan traffic management
- **Improved project coordination** due to accelerated project delivery prior to mega event opening Day
Merci pour votre attention!
Thank you! Grazias! To obrigado!