


bdigital BARCELONA TECHNOLOGY
DIGITAL CENTRE
GLOBAL CONGRESS

17th to 21th May
2010 - 11th Edition

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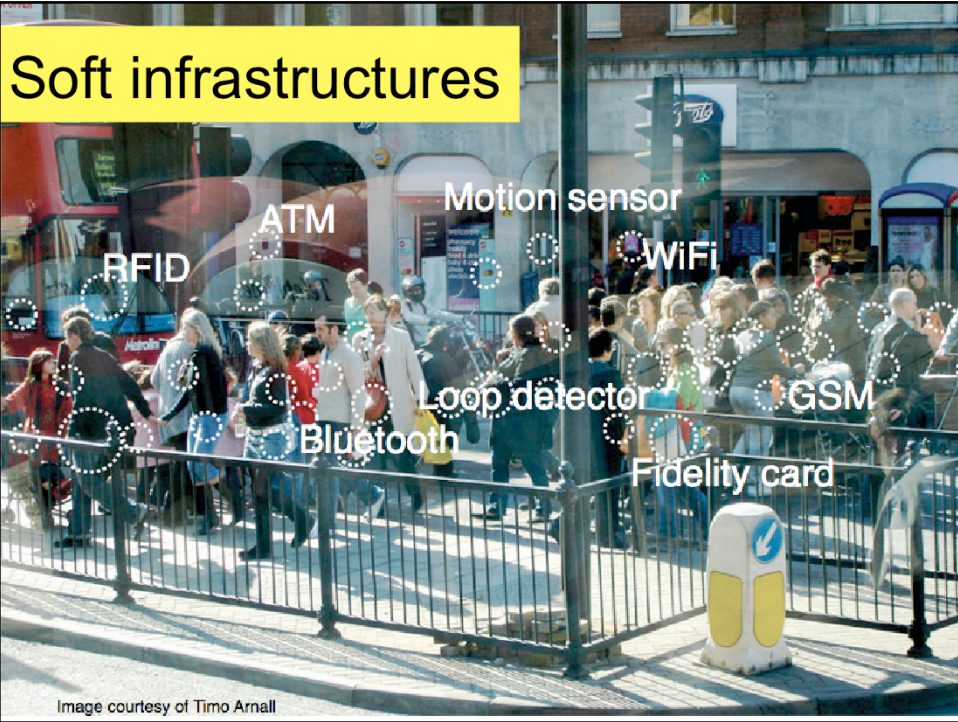
FUTURE
INTERNET

Fabien Girardin

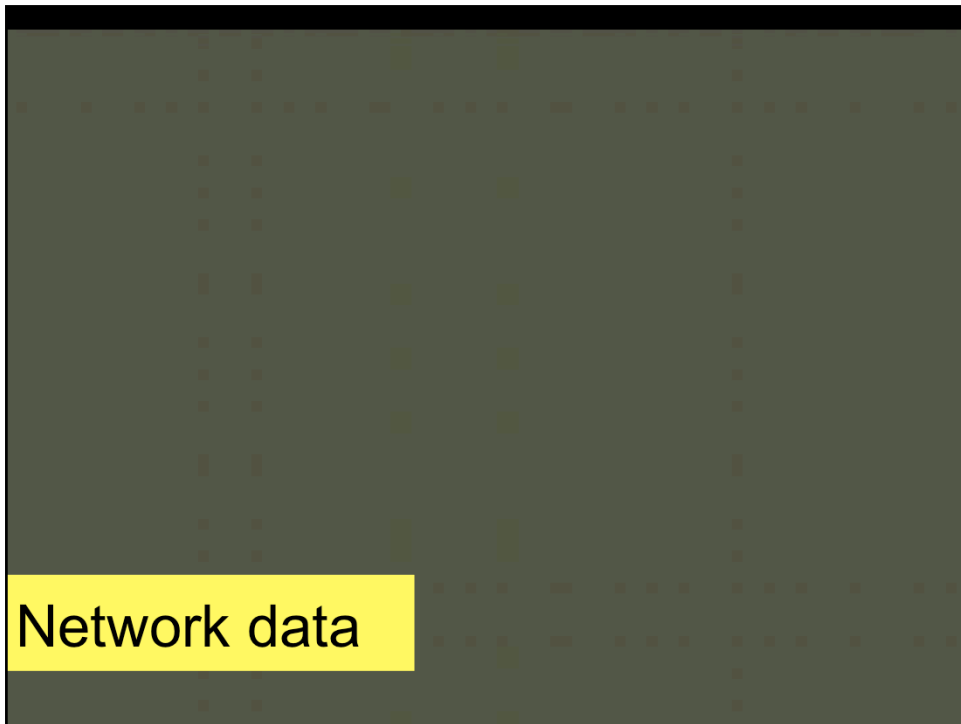
EXPLOITING NETWORK DATA TO ASSESS URBAN STRATEGIES

lift Lab.

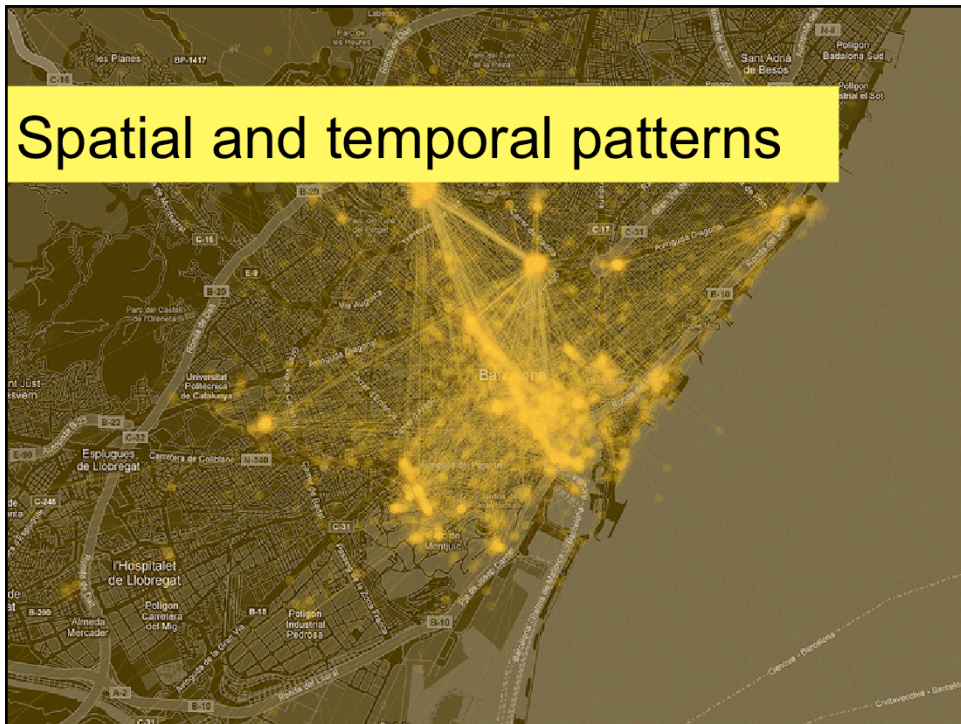
I am the co-founder of Lift Lab, a research agency based in Geneva, Switzerland. In this talk I will introduce some of our work that exploits network data to produce quantifiable indicators as tools to assess strategies, policies or practices.



- Emergence of soft infrastructures that are now equally important in our experience of the urban (ATM, mobile phone network, WiFi network, RFID cards)
- Each of our interactions (explicit or implicit) is logged by the service providers. Often the log is an integral part of the well functioning of the service (it is there to stay).



- These logs or “network data” reveal a lot about the actual dynamic of a city
- They are evidences of occupancies and flows
- They are often accessible in Real-Time as this example in Rome shows. <http://senseable.mit.edu/realtimerome/>



- What interests us at Lift Lab is to exploit the presence of these network data and find their value beside their importance to sustain a service
- Our first approach is to extract the spatial and temporal patterns of the network data. Trying to characterize them.
- This is an example of a map of presence and flows of photographers in Barcelona in 2007. <http://senseable.mit.edu/worldseyes/>

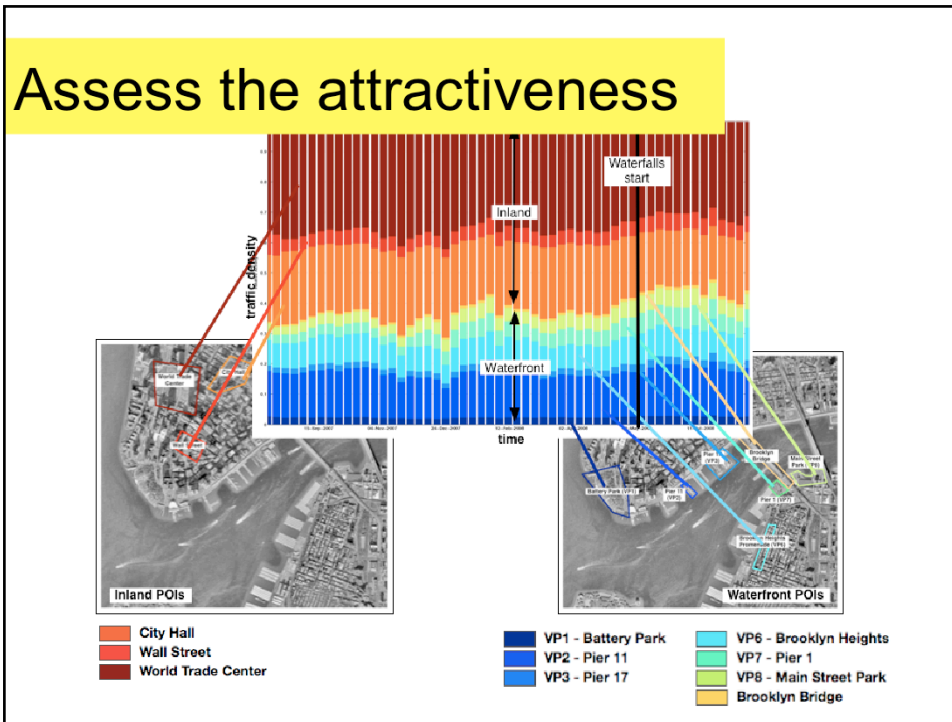
Indicators that measure

- Attractiveness
- Congestion
- Accessibility
- Centrality
- Vitality
- etc ...

- These patterns and characterization help us define multiple types of urban indicators that define the space and its use
- In this short presentation, I will only briefly present indicators of attractiveness and congestion of the space

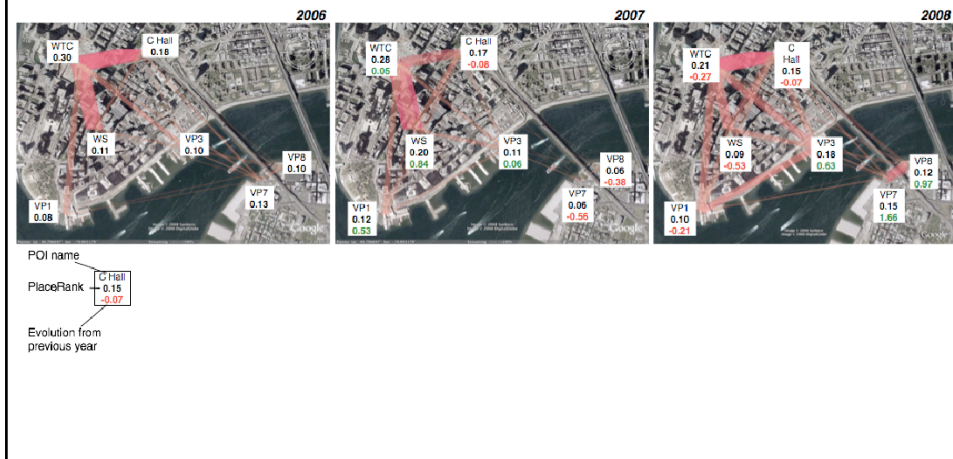


- A first case study takes place in New York, during the Waterfalls public art exhibit
- In the Summer of 2008, the City of New York deployed 4 man-made waterfalls as part of an overall strategy to have locals and tourists rediscover the freshly remodeled New York City Waterfalls.
- The Mayor's Office necessitated indicators to assess the success of this strategy that employed public art.



- In collaboration with MIT and AT&T, we compared the evolution of the mobile phone network activity at the waterfront in comparison to other attractive areas that had no relations to the Waterfalls.
- We were able to measure the increase of mobile phone network activity at the waterfront during the Waterfalls exhibit.
- This evolution was an indicator of presence of more people, assessing the success of the strategy (also confirmed in an independent economical impact study)

Assess the centrality

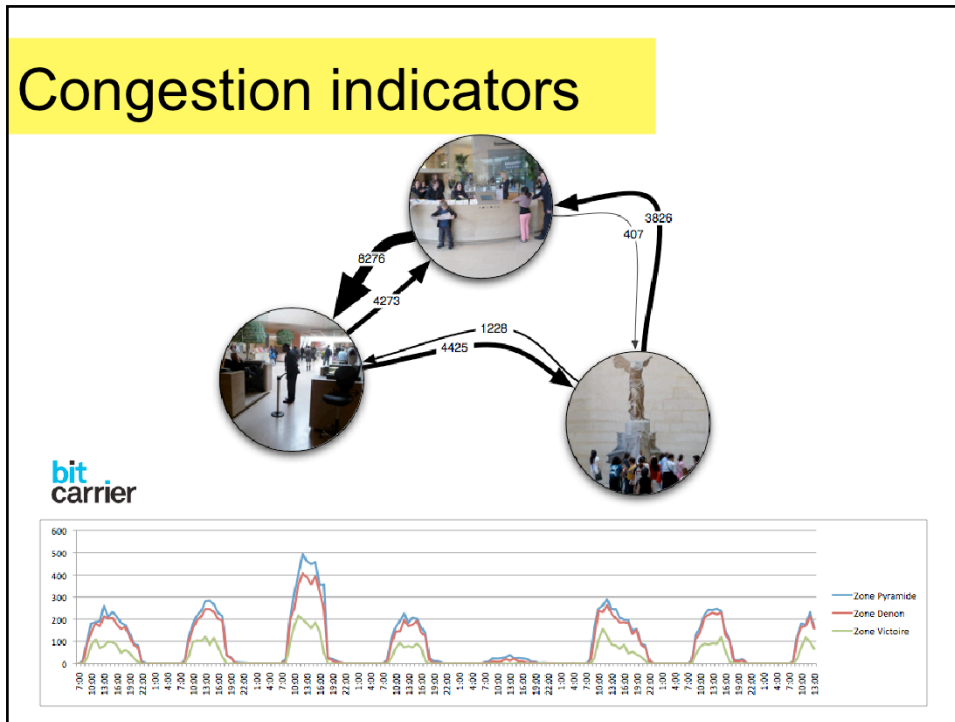


- Other data sources confirmed these results
- The analysis of the georeferenced photos that people share online enabled us to measure the evolution of the flows of photographers
- The Summer of the Waterfalls, the waterfront became a more central element of the network of points of interest in downtown Manhattan



- In other, more recent project, we are working with the Louvre Museum to help manage its success
- The museum suffers from hyper-congestion in certain key areas that affect the visiting experience and the management of the security
- They need indicators to measure this “hyper-congestion” and evaluate their strategies to reduce the phenomenon.

Congestion indicators



- In collaboration with the real-time information provider BitCarrier, we deployed multiple Bluetooth scanners to measure occupancy levels and flows at key areas of the museum
- This approach enables us to measure visiting time, the attractiveness, and centrality of key areas and their relationships in the major routes.
- With these data we were able to define congestion indicators and their evolution

Values for responsive cities

- Piggybacking on existing soft infrastructures
- Empirical, longitudinal, real-time information
- Facilities (location of resources, staff)
- Services (adapt the offer)
- Space management (fluidity, measure ROI)
- etc...

- To sum up, soft infrastructures and network data are now part of the most basic urban services. Their infrastructure is already present
- They have a value to understand and measure urban dynamics in an empirical, (sometimes real-time) and longitudinal fashion
- The indicators they produce can be applied to better manage facilities (e.g. information stand location), adapt the offer of a service (e.g. public transport system) or assess the “price” of a space (e.g. shop rental).

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THANK YOU



Thank you, gracias. fabien@liftlab.com