New Mobility Services: Advanced Journey Planners

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JOSEP LABORDA
ITS Project Manager, RACC Foundation

josep.laborda@racc.es
linkedin.com/in/joseplaborda
@josik35
key trends

urbanisation

always on & connected

new mobility concepts
key trends

urbanisation
always on & connected
new mobility concepts
54% of humanity lives in urban centres

Cities consume 66% of the globe’s energy and contribute a large share of its greenhouse-gas emissions

30% of the world’s economy and most of its innovation are concentrated in just 100 cities

Rising urbanization is creating, among other, a demand for new personal mobility concepts...

MIT January / February 2015 Business Report “Cities get smarter”
congestion undermining mobility

Studies show that roughly 30% of all traffic congestion in urban areas is caused by drivers circling and struggling to find a parking spot.
If we do nothing, the sheer number of people and cars in urban areas will mean global gridlock. Now is the time for all of us to be looking at vehicles the same way we look at smart phones, laptops and tablets: as pieces of a much bigger, richer network.

- Bill Ford, executive chairman, Ford Motor Company
key trends

urbanisation

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new mobility concepts
always on & connected

- 100% of cars will be connected by 2025 (1)
- 75% of cars on the road will be autonomous by 2035 (2)
- 1 billion smartphones shipped globally in 2014; expected 1,5 billion by 2017 (3)
- the ability to gather road and transit mobility data and push information back to users is a major breakthrough

(1) GSMA, 2013; (2) Navigant Research, 2013; (3) International Data Corporation (IDC)
always on & connected
always on & connected

- smartphones as the key to advanced mobility
- “Internet of Cars” → integration with smartphones and embedded connectivity
- mobility-related connected services most wanted by drivers after safety-related
- increasing connectivity as key enabler for automation and C-ITS
- user as a sensor (passive / proactive)
- (efficient, intelligent, ethic, secure) management of (big) data
Won’t buy a cow if I only need a glass of milk, then...

… won’t buy a car if I only need a ride in a car-share
new mobility concepts

- empty car seats and idle vehicles / unused parking space form an immense “wasted asset”

- new mobility patterns stimulate innovative business models

- from conspicuous consumption to collaborative consumption
the need: get from A to B, no matter how

algorithm(s) + data = travel itinerary
users behaviour is a complex thing...

REASONS I CHOSE TO TRAVEL TO A CERTAIN PLACE.

REALLY GOOD FOOD 3%
AMAZING CULTURE 3%
INSTAGRAM MATERIAL 3%
STEVE WENT ONCE AND SAID IT WAS PRETTY GOOD, OR AT LEAST THAT’S WHAT IT LOOKED LIKE ON HIS INSTAGRAM 6%
CHEAP FLIGHTS 85%
criteria (current journey planners)

- time
- convenience
- cost
- health benefits
- preferred mode of transport
- carbon footprint
advanced criteria and advanced features

- *ETA* (Estimated Time of Arrival) vs *BTTL* (Best Time To Leave) \(\rightarrow\) **Predictive features** (including scheduled events, historical data, etc.)

- Transit schedules (static) vs Real-Time (for Public Transport) \(\rightarrow\) **Incident management**

- Free flow vs Real-Time Traffic status (for Road Transport) \(\rightarrow\) **Congestion estimation**

- “cheapest” route (e.g. avoid toll roads) or “estimated cost” (e.g. PT cheaper than car) vs **Accurate cost calculation** (e.g. customized to my car characteristics, own or not a PT travel card, age, …)

- **Payment feature** \(\rightarrow\) smartphone as the key to mobility
advanced criteria and advanced features

• private vehicle + PT vs **Add other modes of (personal) transport**: car/bike/moto-share, car-pool, taxi, ride-share, …

• “conventional” Journey Plan vs **Navigate to destination** (including detailed info how to transfer between modes, where to park / RT availability of parking spots, etc.)

• less transfers between modes of transport, walk less, etc. vs **proactive customized recommendations** based on recorded user habits (e.g. “my places”: home, work, gym, shopping mall)

• weather / weather forecast → suggested modes of transport (including taxi)

• book (and pre-pay) parking, etc.
advanced criteria and advanced features

- burnt calories if walking (walking time based on user statistics, not generic), if cycling, etc.
- customized statistics, proactive feedback
- CO2 saving (how accurate?) vs fuel (and €) saving (based on customized travel habits)
- introduce EVs (low carbon footprint)
- track users in transit; track vehicles (not only private but taxis – e.g. MyTaxi, Hailo -, buses, etc.)
- ingest user-generated data (incidents, recommendations, recorded mobility patterns, etc.)
- Augmented Reality, etc.
the right mode of transport for each situation

Hundreds of combinations: “conventional” journey planners not taking them all into account
remarkable examples of (A)JP

• UBER first third-party app integration for Google Maps (estimated pickup time, fare and travel time)
  BUT ... launches UBER app (not so seamless); “only” available in 30 cities

• Live transit updates: “only” available in 6 cities (including Madrid in Spain)

• Local search element for restaurants, bars, hotels, etc. opening hours, rating, price.

• Lane navigational guidance

• Integration with Android Auto
remarkable examples of (A)JP

moovel. We will get you from A to B. Or even C

- Public transport + traffic information + walking + car-sharing (Car2Go / Car2Go Black) + bike-sharing, carpooling (Bla Bla Car) + taxi (myTaxi) + chauffeur
- More seamless: integrated modes of transport + booking (parking, car-share) + payment + smartphone app as single key
- Only available in some German cities: Berlin, Munich, Stuttgart + Nuremberg and Rhine-Ruhr
- Estimated travel time and price
remarkable examples of (A)JP
remarkable examples of (A)JP
how to explain directions...

How directions are explained to me:

- Start
- Left here
- Left here
- Right here
- Right at water tower
- Go over big road
- End

How I recall them about 30 seconds later:

- Start
- Left here
- Guess/panic
- Big road
- Go somewhere here or here
- Wait, where's that water tower?
use of augmented reality
use of augmented reality
connected users like “transit sensors”

Damn! We’re stuck in line #L3 between Liceu and Plaça Catalunya!
advanced urban mobility

a real user-centric approach: “prosumer”

mobility data
(location data + mobility habits + social media, etc.)

seamless travel experience
(smartphone as key; integration with car; pay; book;)

(enhanced / new) algorithms
(fuelled by massive data; semantic web; predictive)

bundled mobility services (MaaS)
(tailored mobility packages; e-marketplace)

trust, privacy
(ethic use of mobility-related Big Data; payment)

organisational and business models
(understand user needs + policy, legislation, regulation)

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advanced urban mobility
stakeholders and more food for thought

big players
Google, Apple

transit operators
truck, train, bicycle

Service Providers, start-ups, …

academia, research centres

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telcos

public authorities

financial entities
What if all transportation was converged...
MaaS: Mobility as a Service

value proposition

...and tailored to your needs as monthly packages
MaaS: Mobility as a Service examples

**Urban commuter package for 95 € month:**
- Free public transport in home city area
- Up to 100 km free taxi
- Up to 500 km rental car
- Domestic public transport 1500 km

**15 minutes package for 135 €/ month:**
- 15 minutes from call to pick up by shared taxi
- EU wide roaming for shared taxi at 0.5 €/km
- Free public transport in home city,
- Domestic public transport 1500 km

**Business world package for 800 €/month:**
- 5 minutes pickup in all EU
- Free taxi in home city
- Lease car and road use
- Taxi roaming worldwide

**Family package for 1200 €/month:**
- Lease car and road use
- Shared taxi for all family with 15 minutes pickup
- Home city public transport for all
- Domestic public transport 2500 km
MaaS: Mobility as a Service framework (at local level)
MaaS: Mobility as a Service
framework (at panEuropean level)
recap: main ideas

- cell phones turning into personal travel assistants
- connectivity, Big Data
- trends
  - vehicle ownership, especially in urban areas, will decline
  - automation
  - bundled mobility services (MaaS)
- game changers, disruptive technologies / business models: on-demand transport, sharing economy
- “prosumer”, empowering the users
Gràcies!

Thank you!

josep.laborda@racc.es

linkedin.com/in/joseplaborda

@josik35