

# Paradigmatic change?

Yet not so visible, or *legible*, because it:

- *is supported by uses and values (of “new mobility”)*
- *transforms tools and means in a very unexpected way*
- *mobilizes unusual actors, strategies, trades (and countries)*

1. **Uses and values ahead**
2. **An “other” innovation**
3. **New actors and strategies**

**of urban mobility**

# I. Transformation of uses and values



# I. Transformation of uses and values

A new idea: mobility

**Transport** - “flow” / “transported” (*passive*)

**Mobility** - “individual” / “mobile” (*active*)

- Mobility for all & everyone masters his/her own mobility
- Mobility as :
  - Social right
  - Responsibility (Duty)
  - Competence (‘social asset’)
  - Experience
- A “new mobility”: individual, smart, communicating



Mobility = way of life  
*homo mobilis?*

# “New mobility”

- “Auto-mobile” individual is designer & co-producer of his/her own mobility
- New relations to time
- New relations to body
- New relations to others
- New relations to places
- New relations to environment
- Transformation of values: from transit to reliance



# 1. “Auto-mobile” individual is designer & co-producer of his/her own mobility



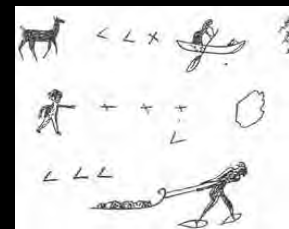
- Choice  
*an individual & multimodal mobility*  
*a free composition (“à la carte” vs. menu)*



- Competence / pedagogy  
*“We are not born mobile, we become it”*  
*è Learning, empowerment*

- Devices, Information  
*“Map and compass”*  
*è New tools for navigation*

*Egocentered navigation*



*Allocentered navigation*



Cognitive sciences results on navigation

## 2. New relations to time



- Optimization
- Real-time information



- From “*time distance*” to “*time substance*”  
(2 ways to “win” time)

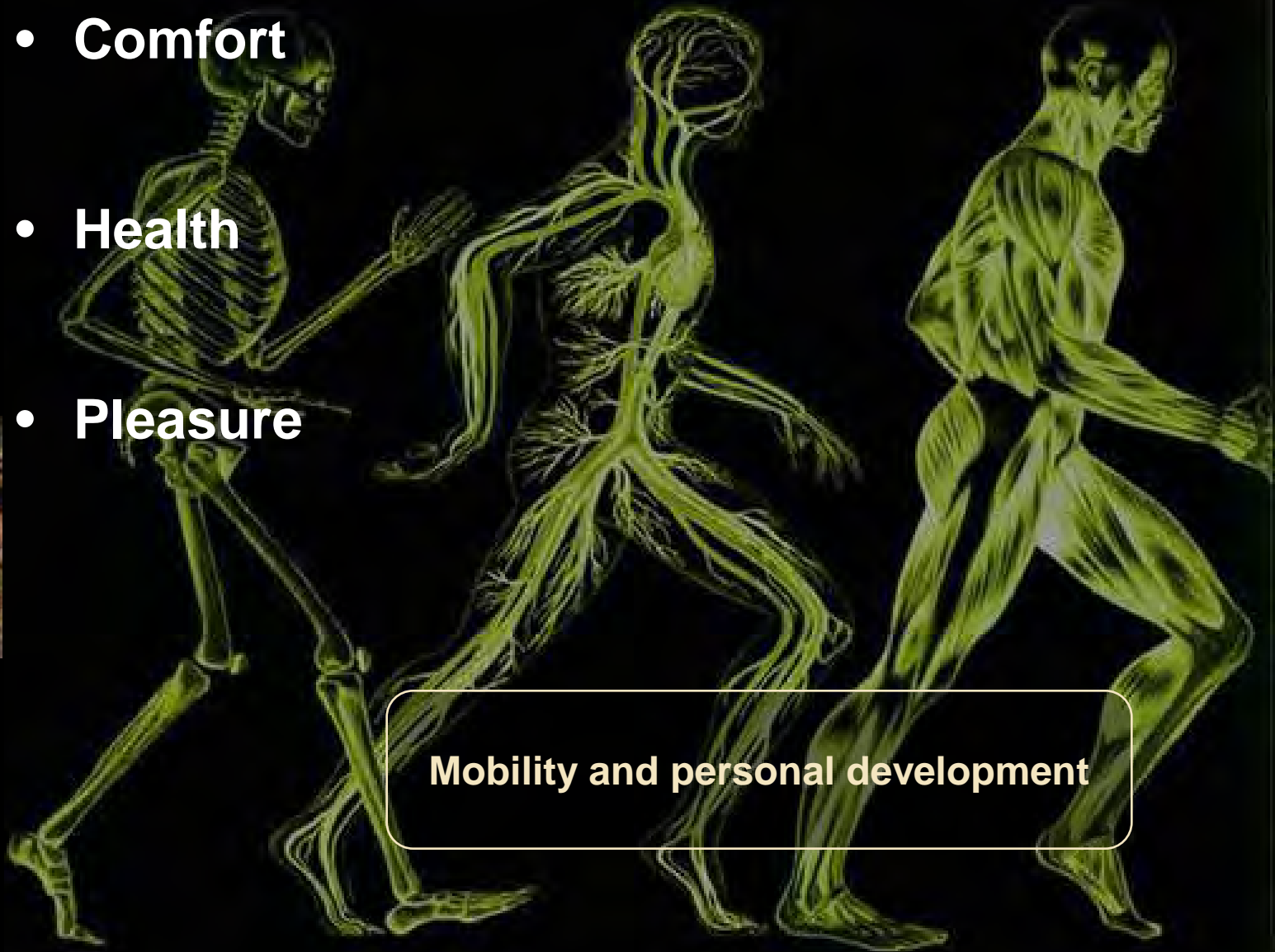


- New urban pace  
(events, night...)

### 3. New relations to body



- Comfort
- Health
- Pleasure



## 4. New relations to others

- Opportunity for meetings (strengthened by IT)
- New aspects of crowd (*smart mobs*)
- “Mobile love”



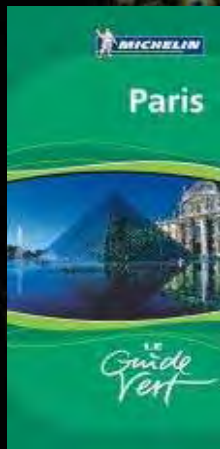
Screenshot of the dilelul.com website interface. The page features a navigation bar with city names: NANTES, RENNES, LILLE, STRASBOURG, PARIS, LYON, NICE, MARSEILLE, TOULOUSE, BORDEAUX. The main content area shows a stylized illustration of a subway car with silhouettes of people sitting on benches. A red heart icon is visible near one of the figures. Text overlays the illustration: "Vous l'avez vu ? Il vous a plu.", "On s'est regardé Tu m'as plu", "Vous l'avez vue Elle vous a plu", and "On vous a vu Vous avez plu ?". At the top right, there is a login section with fields for "Votre pseudo" and "Mot de passe", and a "POUR LIRE" button. The footer contains the text: "Dans les TRANSPORTS EN COMMUN ou dans un T.G.V. ? Pour le découvrir... INSCRIVEZ-VOUS cliquez ici".

me<sup>o</sup>tic.com  
all you need is love



## 5. New relations to places

- Mobility as opportunity to know more about territories
- Transport as a vector of urban district regeneration
- From O / D to place as a stage, a network hub



# 6. New relations to environment

Éteignez votre moteur



et ménagez notre environnement



## A responsible mobility

- Ecology of mobility
- Activism dimension
- Respect of others and public space



## 7. Transformation of values: from *transit* to *reliance*

- **Value TRANSIT**

- “Direct crossing distance,” passing by territories
- Going from A to B the fastest way
- Avoiding all contact / friction / detour
- è Winning time is the only sense

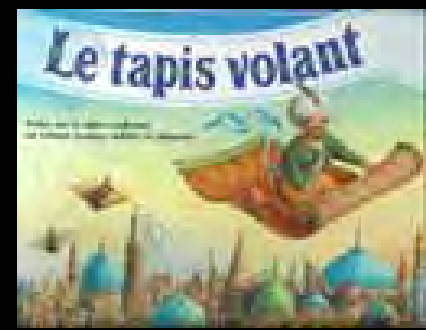
- **Value RELIANCE**

- “Creating links”
- Relation to others (space & time)
- Meeting territories, spaces
- Living time as a productive interval (for business or personal)

- “From MILES value to CONTACTS value”



*Integrated mobility to  
city and urban life*



## II. Evolution of tools and means of transport

*An intense innovation but... unexpected*



# Evolution of transport modes



Nothing new since  
the end of 19<sup>th</sup>  
century ??



# 1. Integrated diversity



## Multimodality :

- Growth in all cities

**modal diversity** : a principle of urban ecology

mobile-diversity / urban ecosystems

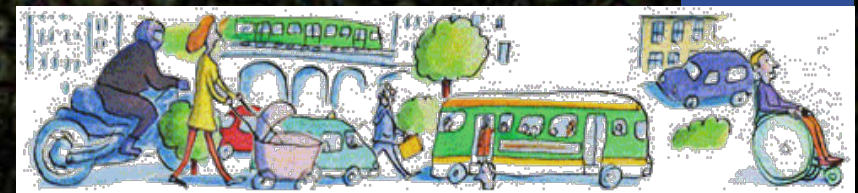


Bio-diversity / natural ecosystems



*Modal diversity  
will be augmented!  
optimal number?  
> 20 or 30...*

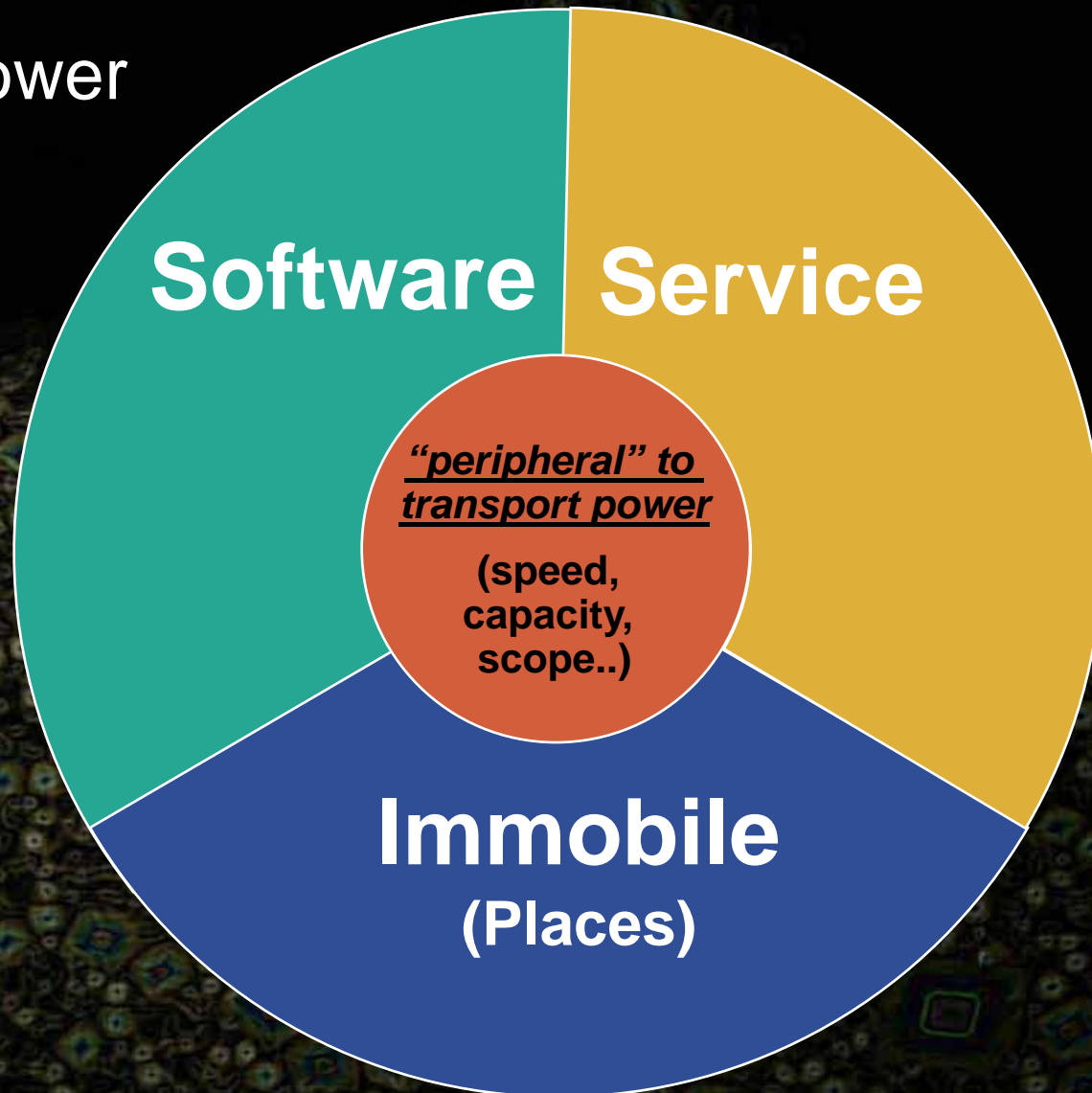
	Itro de linha	Capacidade	Frota Operante	Número de linhas
	Circular Centro	30	09	02
	Convencional	40	98	10
	Convencional/Troncal	80	327	97
	Alimentador	80	670	21
	Alimentador Articulado	160	50	
	Interbairros Padrão	110	46	07
	Interbairros Articulado	160	72	
	Linha Direta	110	355	18
	Expresso Articulado	270	163	06



## 2. Innovation: “peripheral” and “intangible”



Beyond power



## 2. Innovation: “peripheral” and “intangible”



### *New dimensions of service*

1. *Empowerment* of end users
2. Services for social exchange
3. Service of neighborhood

Service

"peripheral" to  
transport power

(speed,  
capacity,  
scope..)





## 2. Innovation: “peripheral” and “intangible”



### **New dimensions of service**

#### 1. **Empowerment** of mobile person

- **Pedagogy** (Mobility workshops)
  - From information to teaching and care*
  - Personal assistance, guidance, advice
- **Ergonomics of spaces**
  - Accessible, walkable, legible
- **Mobile tools, IT...**

#### 2. **Services of social exchange**

(between travelers)

from service relation *toward* service of relation

- Intermediary, delegate, orchestrator

#### 3. **Service of neighborhood**

- “District Concierge”

**Service**

## 2. Innovation: “peripheral” and “intangible”

- Access, connection, interface
- Spaces of transport (stations, stops, hubs), socially important places in city
- From **Origin/Destination (O/D)** to rest stop  
reverse hierarchy of place over travel

*From stop to great hub, a key innovation field, with major business issues*

Immoblie





Le

d'échang  
La Defens  
Park



Immobilier



## 2. Innovation: “peripheral” and “intangible”



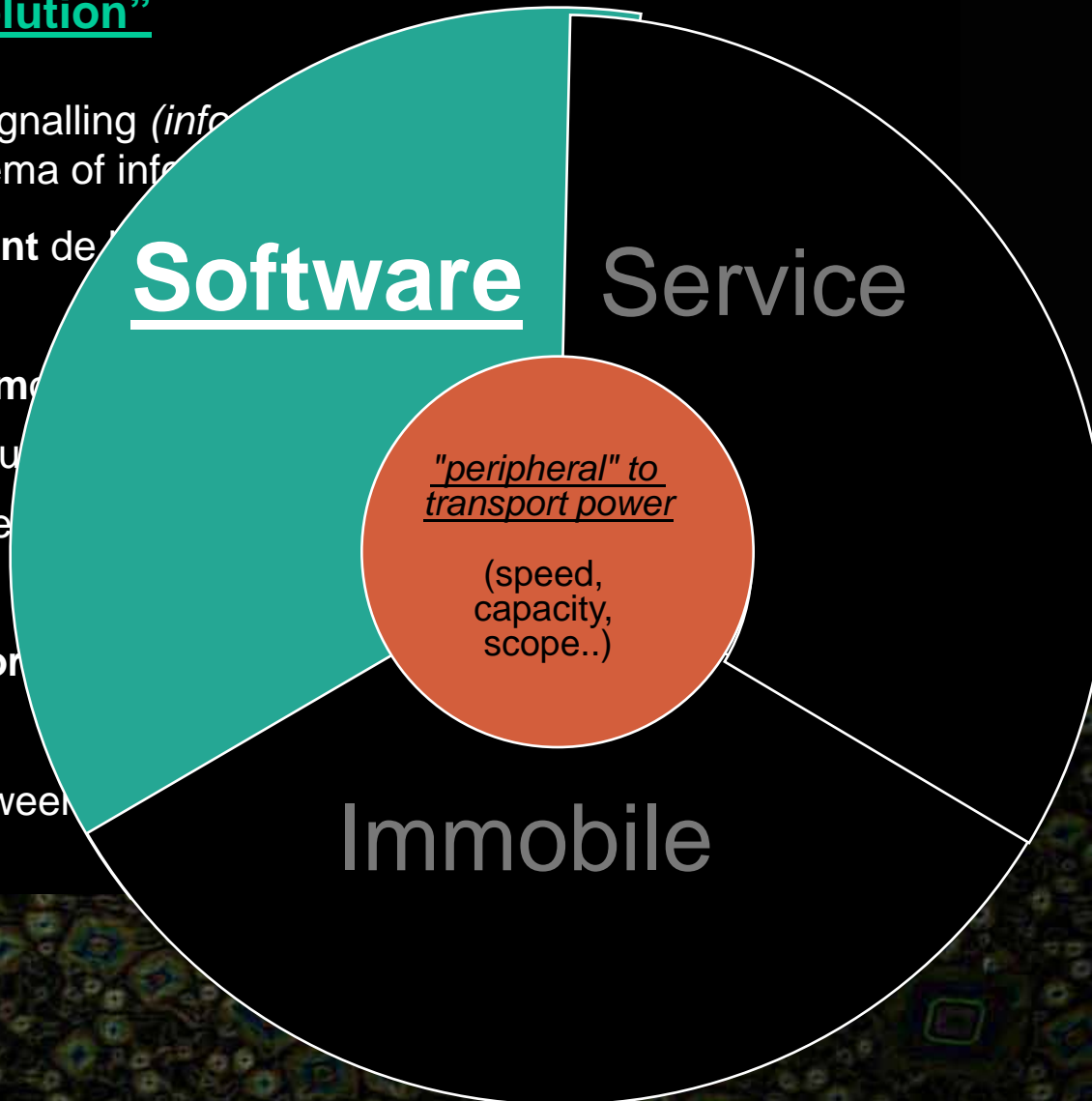
### “Information revolution”

Beyond time-space signalling (*info*)  
And from classic schema of info

1. **Info-empowerment** de  
“Smart mobility”
2. **Info-software** of m  
Information as a pu
3. **Info-browser** (use  
“Life on-line”
4. **Info-‘2.0’, collabor**

More...

Towards new mix between



## 2. Innovation: “peripheral” and “intangible”



### “Information revolution”

Beyond time-space signalling (*info-conformation*)

And from classic schema of information theory (Shannon)

1. **Info-empowerment** of the individual (real time, pedagogy...)
  - increase “individual capabilities” of mobility
2. **Info-software** of mobility (car sharing, walking bus, etc):
  - Information as a real means of transport
3. **Info-serendipity, browsing** (uses of on-board time, activities, contacts... - “Life online”)
4. **Info-“2.0,” mutual collaboration** (e.g; Clevercommute. com)
  - travelers as source of information

Toward new mix between **home, work, mobility, and information**

## 2. Innovation: “peripheral” and “intangible”



Software

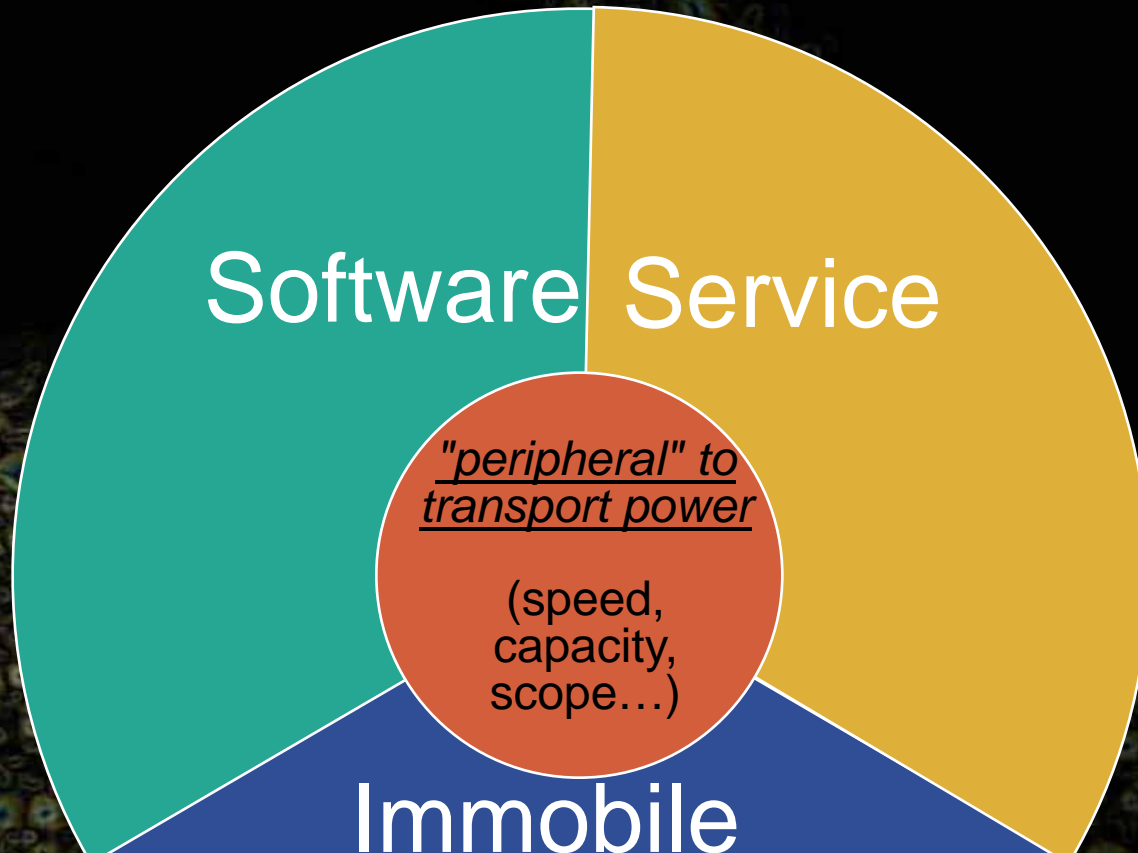
"périph"



Perhaps the future of transport!  
*New services, new actors...*



## 2. Innovation: “peripheral” and “intangible”



**A systemic approach to innovation**

*New synergies between  
Energy, Information, Services, Places, Travel*

# An intense innovation but... unexpected

- More diversity than one best way
- More peripheral or intangible aspects
- More reinvention than “creation”
  - By melting pot, modal hybridization (“*transmodality*”)
  - By radical redesign of existing modes



### 3. Reinvention more than “*ex nihilo*” creation



#### ‘Melting pot’ of modes : *transmodality*

- Curitiba & “BRT”
- Karlsruhe “tram-train”
- Car-sharing & new uses of car
- Walking Bus

Melting :

bus x subway

tramway x regional train

private x public

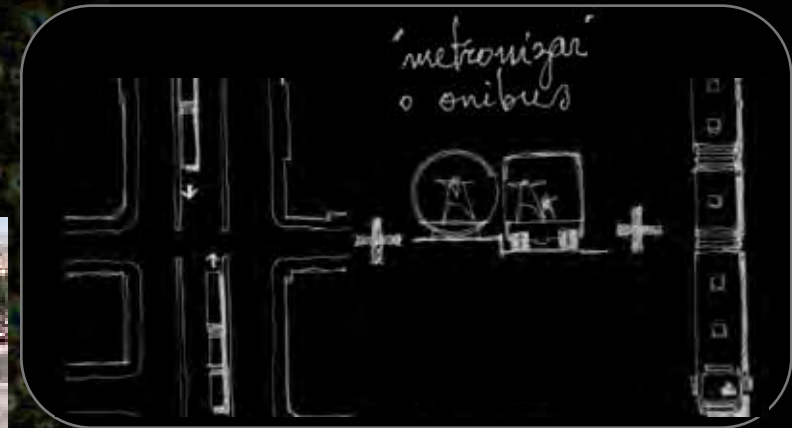
walk x bus

#### Redesign of existing modes

- Rebirth of tramway
- Public bike (Velo’v, Velib’...)      melting individual x public
- Reinvention of subway

# Transmodality (some examples)

- Brazilian genius:  
*When bus plays subway*  
*Transmode subway x bus*



- US Mix:  
*Ride-sharing*  
*Transmode private car x public transport*



- New Zealand original idea:  
*Walking bus*  
*Transmode walk x bus*



# a. Invention of Curitiba

Invention of Curitiba.  
 'Surface subway' (tube station)  
 - decoupling technology / mode  
 - Multimodality on wheels



*A pure station, subway-like !*







*Correspondance Praca Rui  
Barbosa*

*Surface Subway : realised oxymore!*



*Multimodal network on wheels!*

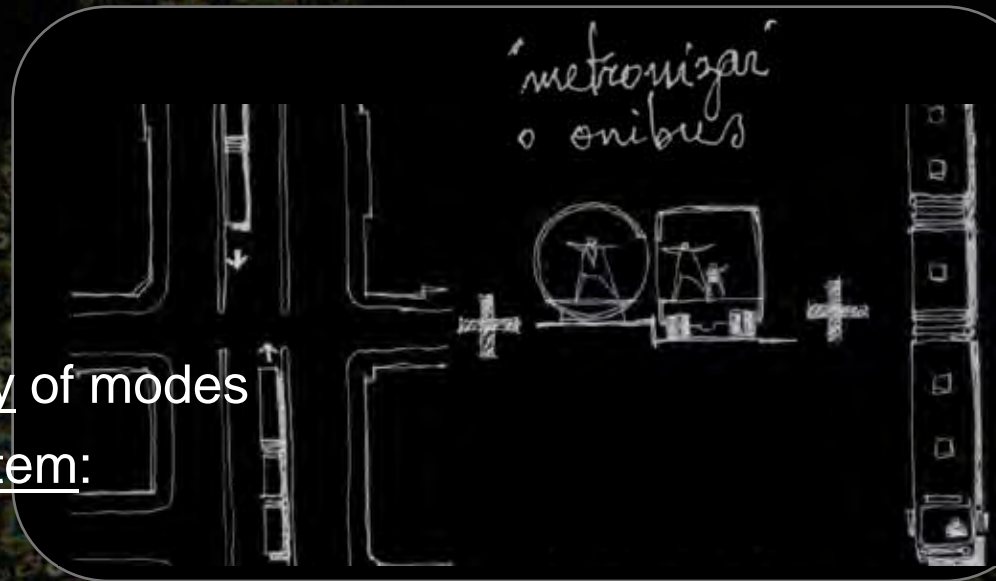
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# from Curitiba to “BRT” (World expansion)

- Invention (USA) of concept - labeled BRT :  
railway-like series *HRT / LRT / BRT*  
“Think rail, use bus”

*BRT :*  
**transmode bus x subway**

- Rebirth of bus:
  - ▶ Bus isn't a mode but a family of modes
  - ▶ Bus isn't a vehicle but a system:
    - ▶ Mobile + Immobile
    - ▶ Hard + Soft
    - ▶ Integration + Identity



## b. Ride-sharing (and others)



- **Information System:**  
Data basis, advice, marketing, websites make ridesharing a new “transport mode.”  
(Modal share 15% in L.A.)
- **Information plays a role of software**  
which “re-programs” hardware  
(highways, parking lots...)



**transmode Private Car x Mass Transit**  
→ instead of concept “Private/ Public”  
Drive Alone / HOV

# (Innovative) uses of cars

- Diversity of uses: ride-sharing, carpooling, “public car” ...
- Core role of parking – regulation of mobility (SmartCity)
- Intermodality PC / MRT



and... taxi, a “meta-mode”?



# Walk at the heart of urban mobility

Walking (again) becomes an interesting mode

- ▶ Not only as a slow mode, but “modern” (efficient & fast, good for health/planet, techno-tools)
- ▶ A way for an overall (re-)visit of transport system: an active “mobility based on walking”
- ▶ A way to rethink the city: walker as “city designer”





# Redesign of existing modes

- Rebirth of tramway
- Public bike (Velo'v, Velib'...)
- Reinvention of subway for 21st century



# Public urban bike (Velo'v, Velib',...)



What is really innovative in Velib' ? :

- ▶ Stations and dedicated lanes
- ▶ Information System and Smart Operation System
- ▶ Maps, Name, Price and Smart card
- ▶ Widgets, Web site

A joint mode:  
Public / Individual  
Hard / Soft



**Velib' (Paris):** 20,000 bikes, 1,500 stations  
150,000 users/day (in summer)  
**A real public transport mode**



# ... Reinventing subway for 21<sup>st</sup> century

- Subway: champion of urban public transport of 20<sup>th</sup> century
- A long story of power, fluidity, reliability, automatization: The “paradigm of circulation” (integral dedicated site, etc.)



# ... Reinventing subway for 21<sup>st</sup> century



- **Enlarging “subway” concept:**  
from “flow engine” to “subway of exchanges”
  - ▶ **Subway crowds: a new potential**  
opportunities from joint-presence and relation between traveler to traveler (via internet & IT), smart crowd (smart mob)
  - ▶ **Subway as a platform for services of exchange**  
Connections, new services and jobs, “intermediary,” new partnerships, system design all begin by the creation of hubs
  - ▶ **Subway, leverage for sustainable development**  
New economics model: from integrated system to a Plug&Play platform  
New values of subway beyond route time

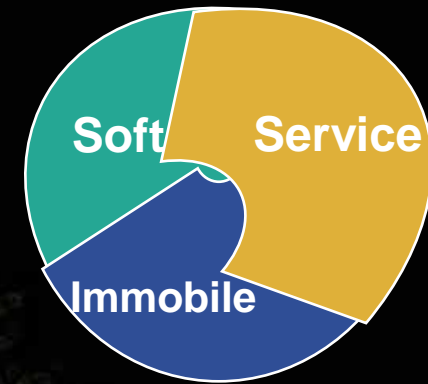


To conclude...

## New actors of mobility

From transport to mobility, so:

- Not only transport operators
  - more and more out-of-transport actors
    - Operators of “**places**” (Vinci, JC Decaux..)
    - Operators of “**software**” (Google Maps...)
    - Operators of “**services**” (Macif...)
  - Transport Authorities (“Who imagined Noctilien?”)
- Not only French or Europeans or other developed countries  
(Who invented BRT? Ride-sharing?...)



To conclude...

## New stakes for mobility

Sustainability as

- innovation for optimization of resource uses
- New values
  - better behaviours, no waste, ...
- An “innovative” innovation
  - Best (practise) is not enough
  - Mix “tradition” and “innovations”
  - Learning process, cross learning, learn from others
- Cultural hybridation

Locavores





**Thank you!**