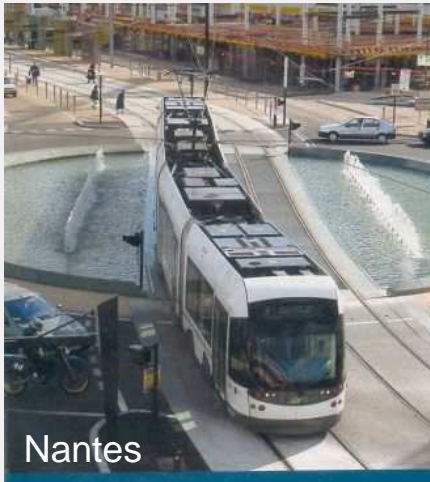


# State-of-the-Art Light Rail: lessons from France



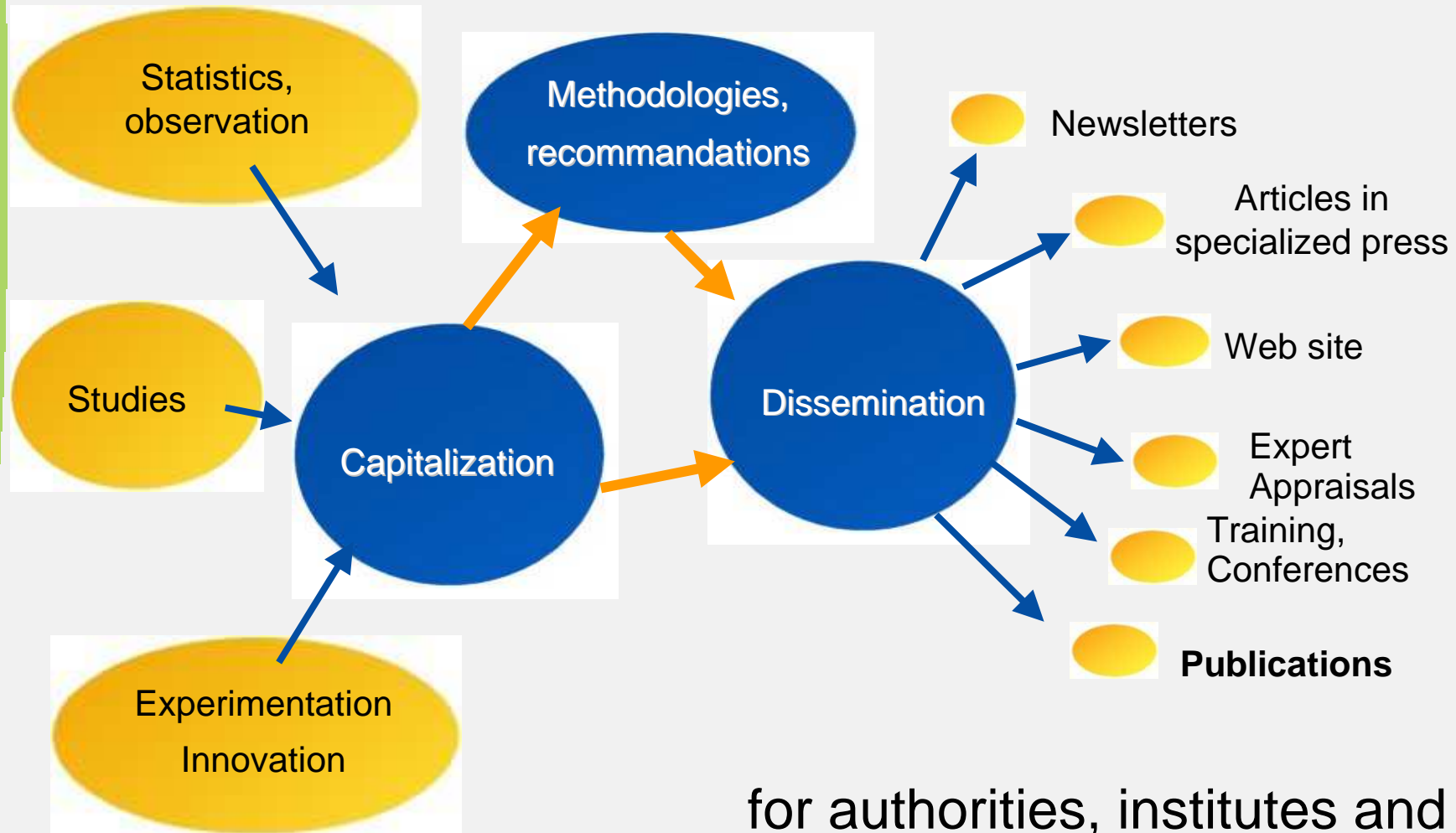
**Urban insertion of tramways :  
efficiency and revitalisation  
of city centers**

**D.BERTRAND – Certu**

Centre for studies on urban planning,  
transportation and public facilities

**Certu**

# Certu, a French state agency...



for authorities, institutes and companies, involved in public service activities in urban areas

# What the “*urban insertion of tramways*” means

= the physical integration of a transport system in the public space, and its interaction with other users and activities

- pedestrians
- bicycles
- motorized vehicles
- parking and deliveries
- residents' activities
- *urban services*
- *maintenance actions*





# What the “*urban insertion of tramways*” means

- => sharing the public space
- => handling uses' conflicts
- in space => **infrastructure design**



Lyon



Nantes

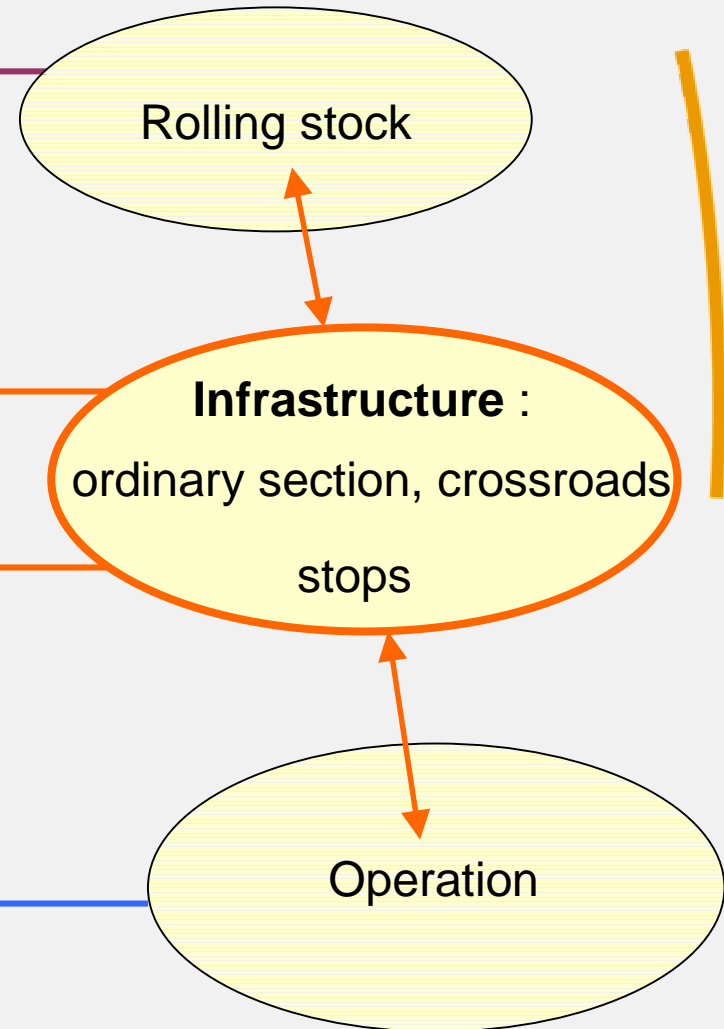
- in time => **traffic management and operation**



Nantes



# An integrated approach of *transport systems*

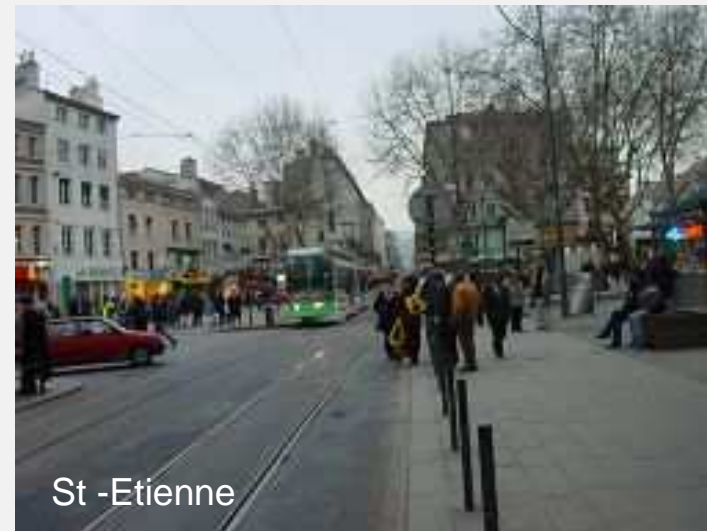


# To let LRT run (back\*) in the streets ...

we had to take the cars' place !



© B&B - Photo Jean-François Desrosiers



St -Etienne

=> getting **dedicated running ways** (most often)



Reims

\* streetcars had quite disappeared in French towns...



# to achieve efficient “H.L.S.” systems...

regularity, commercial speed, accessibility, and safety must be guaranteed ...

=> organize the right of way for LRT

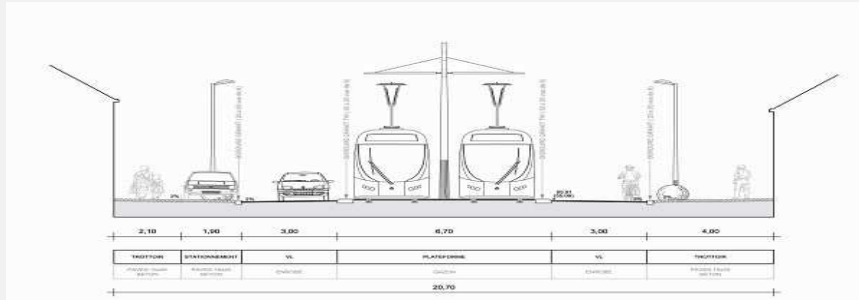


=> reduce the loss of time at stops



# a chance to re-design public space

- full revision of **cross-sections** (frontage to frontage)



- introduction of singular points :



the **stops**



- technical elements to be installed





# Some favourable elements of context

Accessibility rules

(*“handicap” law, Feb. 2005*)



Promotion of active modes



Bicycles must be taken in account  
in projects (*“LAURE” law*)

Moderation of cars in city  
centers

(*“Code de la rue” decrees*)



# Safety as an entrance to urban insertion

a **direct stake** ...  
but also an **indirect** one,  
because of



impact on **productivity** :

- **regularity**
- **availability**
- **commercial speed**
- **corporate image**
- **operation costs**

**disruptions due to accidents**

- immobilized vehicles
- damaged facilities
- services breaks



**prevention methods**

- restrictives orders
- distrusting driving
- drivers' stress



# “STPG”\* regulations, as a facilitator...

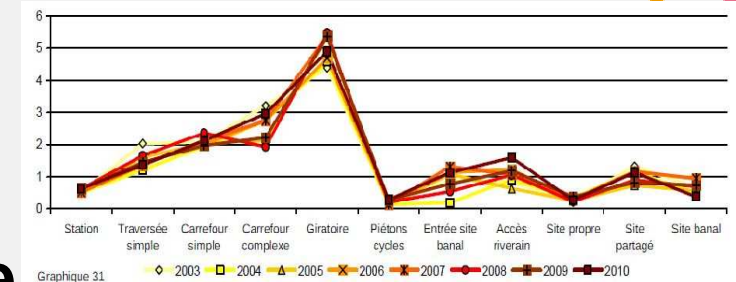
a **regulation** background :

- new projects from 2003 :  
commitments during the project
- existing lines in 2003 :  
regularization in the next 10 years



a **continuous process** :

- annual reports by operators
- a national accidents database
- technical audits in networks by **STRMTG**



\* STPG : safety for public guided transport (*Decree 2003-425, May 9<sup>th</sup> 2003*)



# safety, a federating issue around LRT...



# *transport system vs public space ...*

Between high level of service and good functioning of public space ...

 a few antagonisms

 some constraints

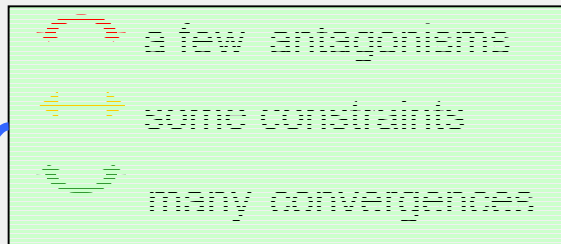


 many convergences



**=> trade-off are necessary to reconcile High level of Service PT and a good functioning of towns**

# a chance to introduce quality in public space



*Some tools to achieve insertion of LRT.*

- introduction of **plants**
- choice of **high quality materials**
- design of specific **urban furniture**





# Laying out the public space, a useful tool for PT

Separators



Protection of running ways

Elimination of lateral obstacles



Setting up of crossings



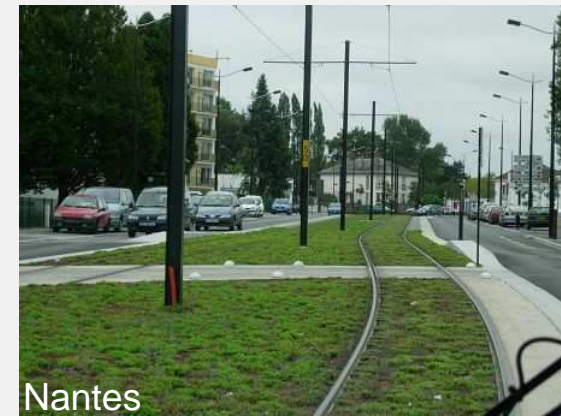
Project acceptability,  
public area



# but some precautions to be taken

Mutual **visibility**

Visibility of **signals**



**Maintenance issues**

**Matching materials**



**Pernicious effects**





# A part of a global approach

Insertion at a local scale (*street*) can't be successful without a coherent background...

- . traffic plan



- . PT network redevelopment



Lyon

- . P&R's constructions,  
residents parking facilities





# also a communication matter...

to win people over LRT project, by taking advantage of the streetcar's positive image !



**consultation before & during construction :**

big efforts...to **keep access**

for residents and shops

& to set up **diversions**

compensations for storekeepers



**communication while starting operation :**

schedule, served areas and services, P&R, fares

but also safety matters : **LRT right of way, road**



# different actors, various objectives

## the contracting authority :

(a political will) to increase PT and to qualify public space

## the project designer :

(a wish) to let a mark of his work in public space

## the PT operator :

(a need) to optimize its transport supply and operating costs

## the resident :

(a strain) to adapt to a change in his surrounding area

- a large and continuous consultation
- Multi-disciplines teams including
  - **Landscape architects, city planners,**
  - **and transport operators**

*in addition to* infrastructure designers, traffic engineers



Thank you  
for your attention



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