



**CIVITAS**  
Cleaner and better transport in cities



**CHRONOBUS**

2 september 2013

Brest

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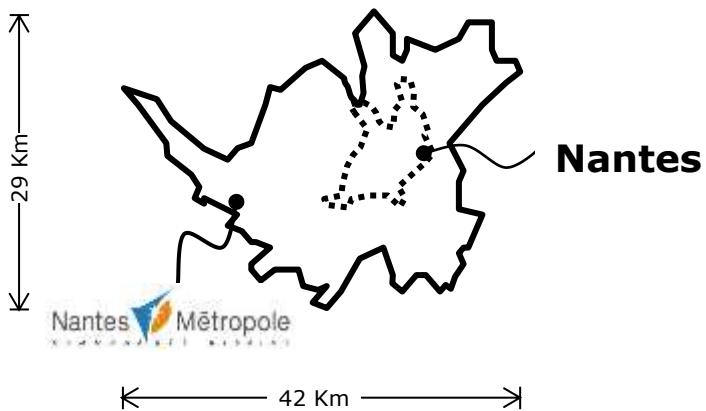


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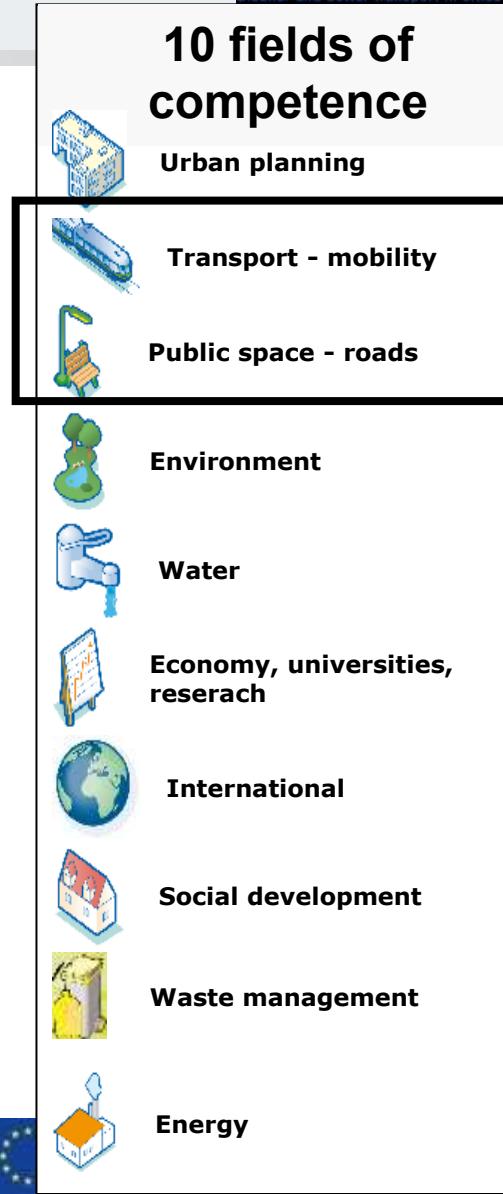
# Nantes Métropole (The Greater Nantes)

## Nantes Metropole

- Created in 2001
- 24 towns



- 595.000 inhabitants
- 300.000 jobs
- 50 000 students
- + 5 000 accomodations / year
- + 7 000 jobs / year
- 5 500 hab/km<sup>2</sup> (intra ring)
- 2 200 hab/km<sup>2</sup> (extra ring)
- Budget = 1,2 Md€/year



## Some figures about PT

- Transport tax = 2 %
- 24 millions km/year - 123 million trips/year -> V/K = 4,8
- 206 trips/inhab/year.
- 390 bus (270 GNV) – 91 trams (TFS + Incentro + CAF)
- 40 P+R (6 000 spaces)
- 600 bus/day on the main corridors



# The THLS network



Ligne	System	Length	Average speed 2009	Ridership 2011
1	Tramway	17,5 km	21km/h	115 000 trips/day
2	Tramway	14 km	20km/h	80 000 trips/day
3	Tramway	12,5 km	19km/h	76 000 trips/day
4	Busway	7 km	21,5 km/h	30 000 trips/day
C1 to C7	Chronobus	70 km	20km/h	70 000 trips/day

# The first BHLS project : BUSWAY

- Dedicated lanes
- Priority at crossroads
- Stations like tram stations
- Dedicated vehicles
- 3 minutes frequency
- 7 km - 34 000 pass/day



# The concept Chronobus



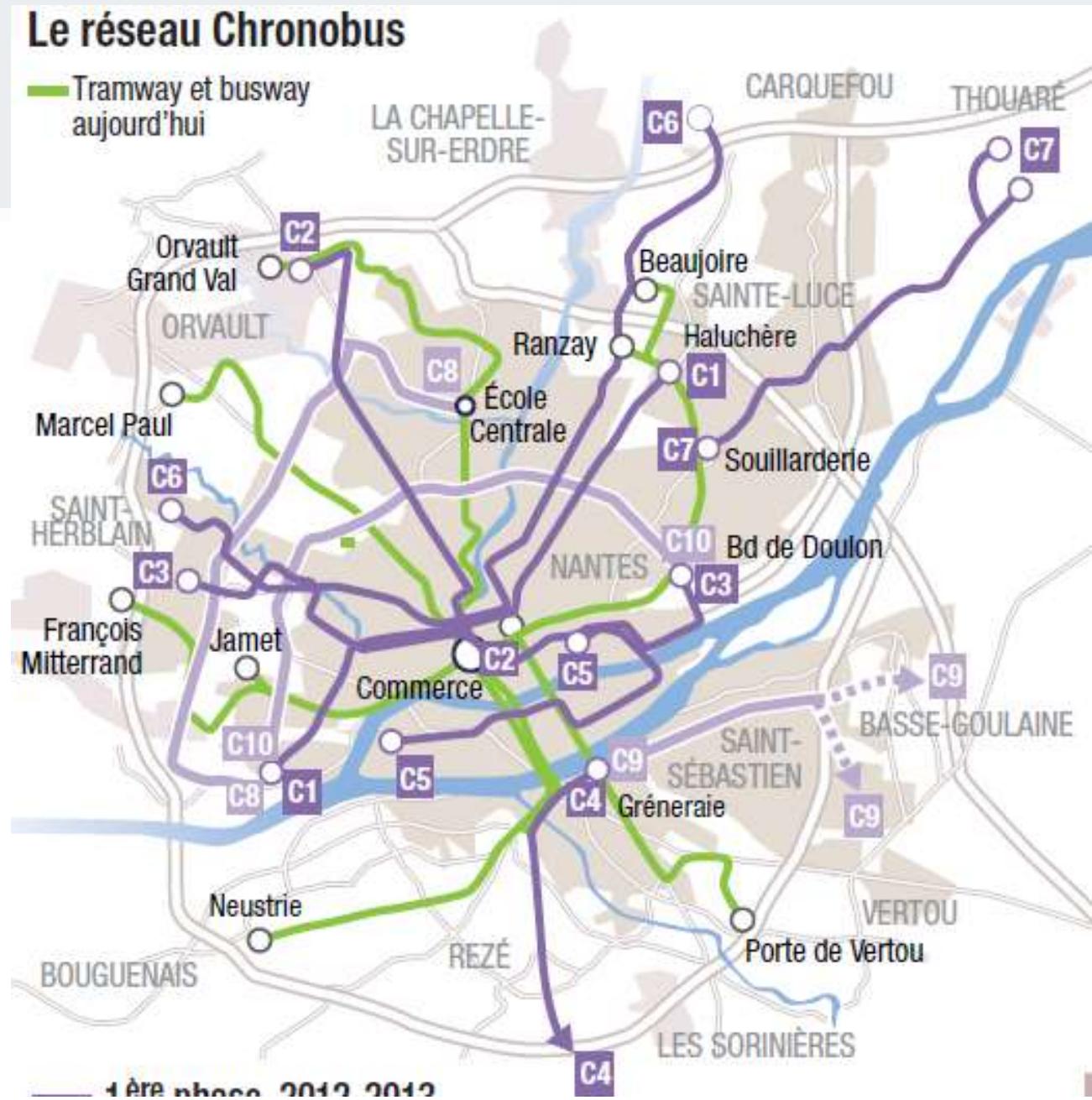
- Save time by an average 2 to 10 minutes
- Buses every 5 to 8 minutes at rush hour and every 10 to 12 minutes off-peak
- Travel time is virtually identical, whether during rush hour or off-peak
- Buses run from 5 a.m. to 12.30 a.m. (until 2.30 a.m. during the night of Saturday to Sunday) like the tram and normal bus lines
- Buses run all year round
- Easy access from bus stops
- Lines visually identified: vehicles, stations, maps, numbering

4 lines commissioned in October 2012, 3 lines in September 2013 and 3 remaining lines after 2014.

# Le réseau Chronobus



Tramway et busway  
aujourd'hui



# Tools used for Chronobus insertion

## Dedicated lanes

reserved for public transport and emergency vehicles in both directions.



## Bus lanes

open to bikes, taxis and other public transport vehicles.



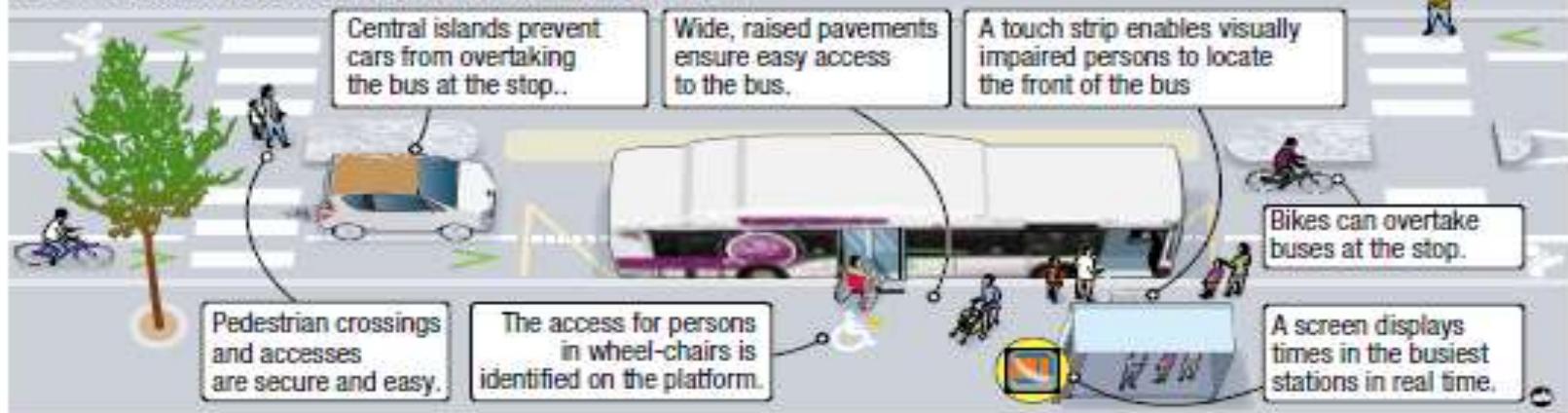
**Time-based single lanes**  
dedicated lanes whose direction alternates according to the time of day: used in one direction in the morning and in the other direction in the evening.



**Spot-check single lane dedicated lanes** used when there is no bus coming in the other direction.



## Chronobus: more secure and accessible stations



**Transformation of intersections with traffic lights into roundabouts.** Roundabouts improve traffic flow and safety.



**Widening of certain roads to 6m.** Buses can pass each other more easily and user safety is improved.



**Priority at lights via radio.** All intersections are equipped with a new system giving priority at traffic lights using a short-range radio.

**Calmer environment at stops**  
the bus dictates the rhythm of the traffic.  
Car drivers must wait patiently behind the bus.



Peripheral town centres:  
“temporary dedicated lanes”

**A new traffic flow organisation** for a more efficient Chronobus



**A new clearly visible service**

## Nantes city centre: the Low Traffic Zone



# First results



- For the 4 lines commissioned in October 2012
  - 7 000 to 17 000 passengers per day (+17% to +25%),
  - Punctual adaptations to reach a better reliability
  - Very good results on nights and week-ends (+30% to +90%)
- For the 3 new lines commissionned in September 2013
  - Good reliability
  - Encourageous results on the demand
  - Very good feeling from drivers and users
- 3 new lines are planned for the next 3 years

# Thank you!

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