

# Results on Behaviour, Acceptance, and Usage

## Speed Regulator System

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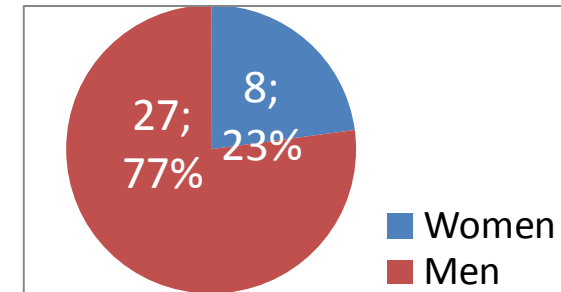
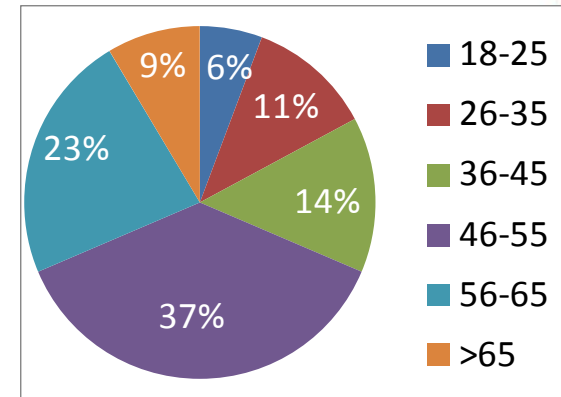
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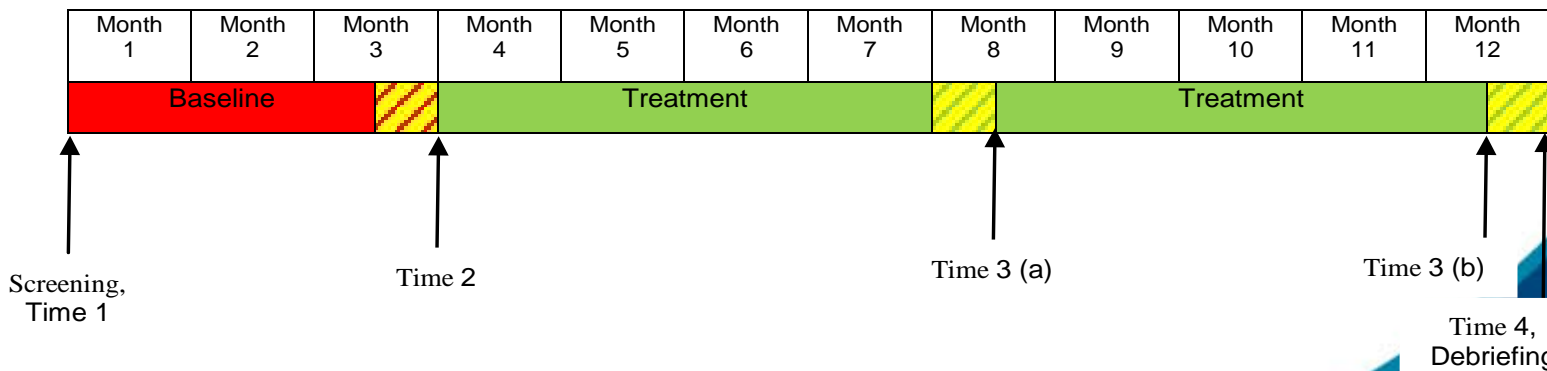
Bringing intelligent vehicles to the road

# French VMC

- ♂ 35 drivers using their own car (Clio III or III Laguna) in the west of Paris
- ♂ 5 identical cars owned by CEESAR were fully instrumented (Yellow periods below)
- ♂ 545 000 km of data analysed



## ♂ Experimental design:



# Results driver behaviour

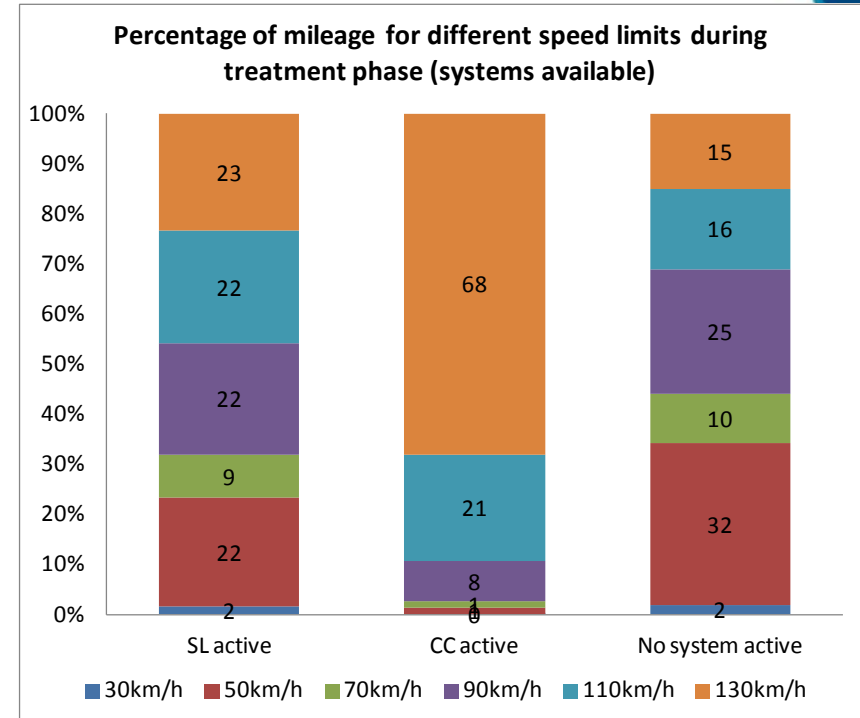
CC usage does not vary significantly over time.

SL usage does not vary significantly over time.

Confirmed by subjective declaration:

- ♻ 63% do not change their way to use the system

Drivers tend to use more one of the two systems.



The CC / SL system is used on demand:

- ♻ CC is often used on highways or freeways ( $\geq 110$  km/h)
- ♻ SL is used on all roads.

# What are the factors impacting system use?

SRS–usage events likelihood  
when condition change ...

From:

To:

Few curves

Curves

Few Crossings

Crossings

Dry weather

Rain

Rush hours

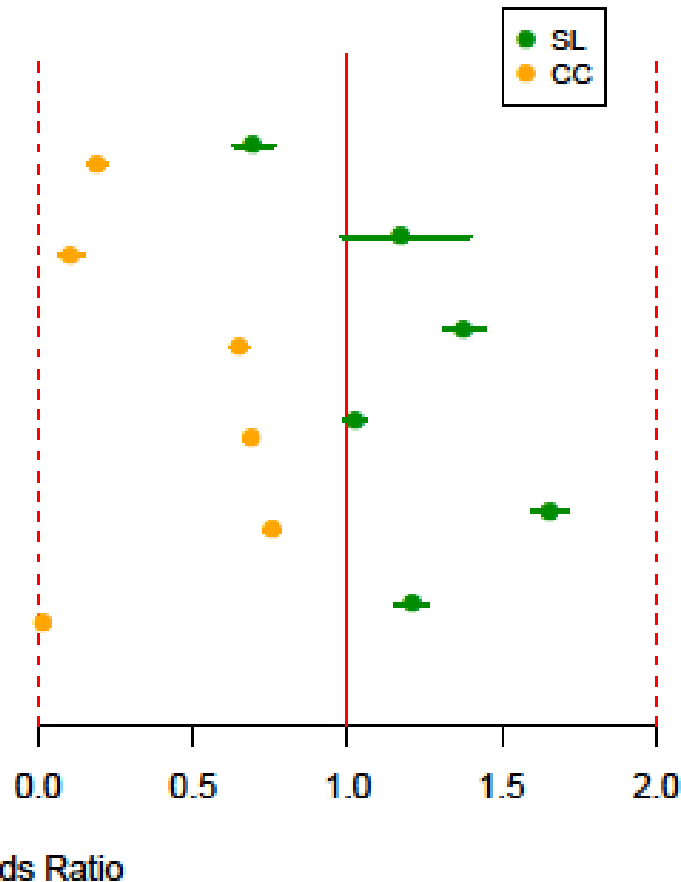
Cool hours

Daytime

Night time

No traffic

Heavy traffic



Adverse driving conditions reduces the usage of CC but increases the usage of SL

# Workload & acceptance

- ⊗ For both systems there is no systematic change of workload over the period of system usage
- ⊗ For both systems, drivers have positive expectations at the beginning of the FOT and expectations are confirmed.

# Comfort and pleasure to drive

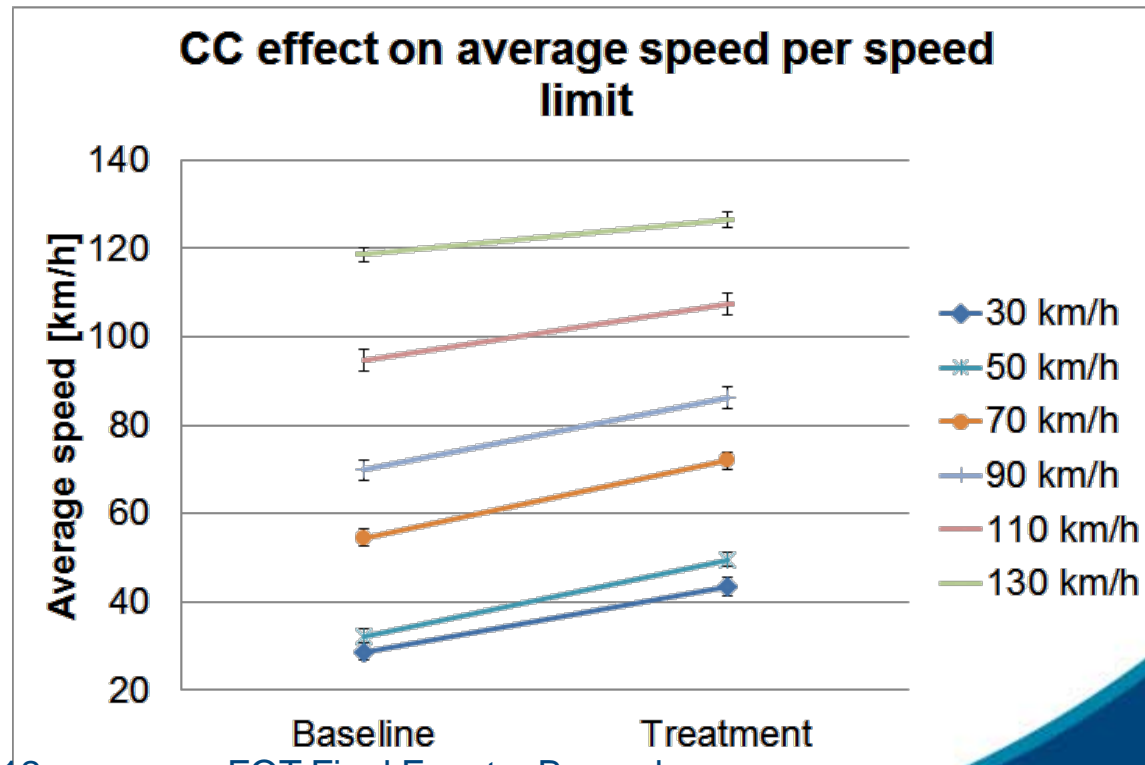
- ⊗ The SL is perceived as increasing the driver comfort for 46% of the drivers and the CC for 80%.
- ⊗ The SL is perceived as increasing the pleasure to drive for 35% of the drivers and the CC for 63%.

# Usefulness

- ⊗ CC is perceived useful on highways with normal traffic
- ⊗ SL is perceived useful on rural road with normal traffic

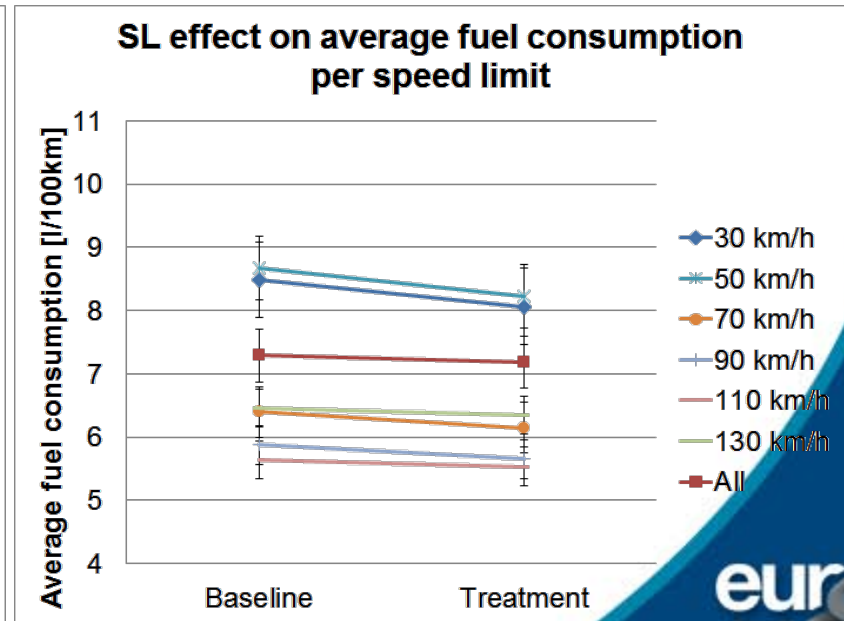
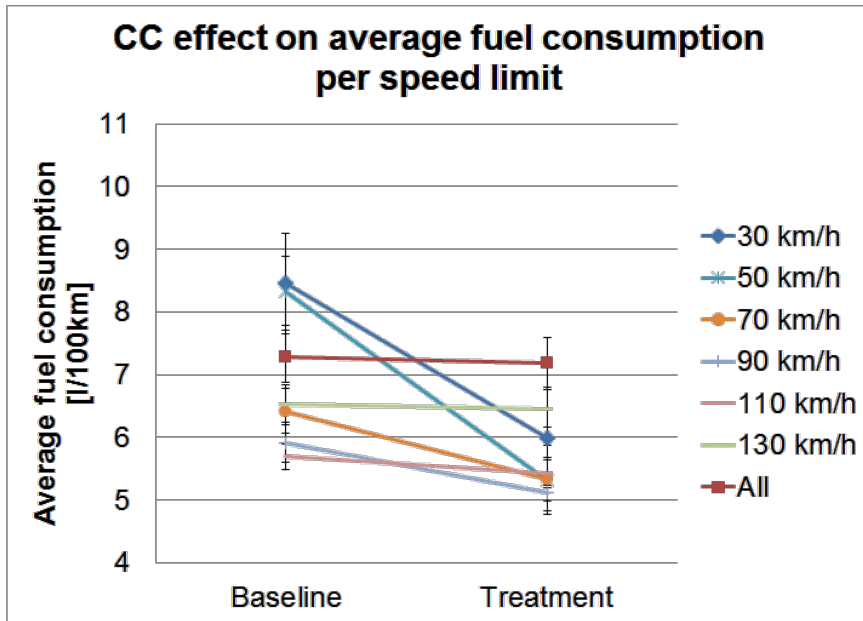
# SRS and speed behaviour

- ♂ CC is used to speed under favourable conditions
- ♂ SL allow to stick to the speed limit without increasing too much average speed
- ♂ Between baseline and treatment (SRS available), there is an increase in average speed of 3km/h



# SRS and fuel savings

- ⊗ The lowest the speed limit when CC in use, the highest are the fuel savings (up to 30% at 50 km/h)
- ⊗ Very small effect on average
- ⊗ A maximum of 5% decreased when SL is used



**8 Functionalities, 28 Partners, 1000 Vehicles**

**1 Field Operational Test, 8 Functionalities**

**28 Partners, 1000 Vehicles, 1 Field Operational Test**

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