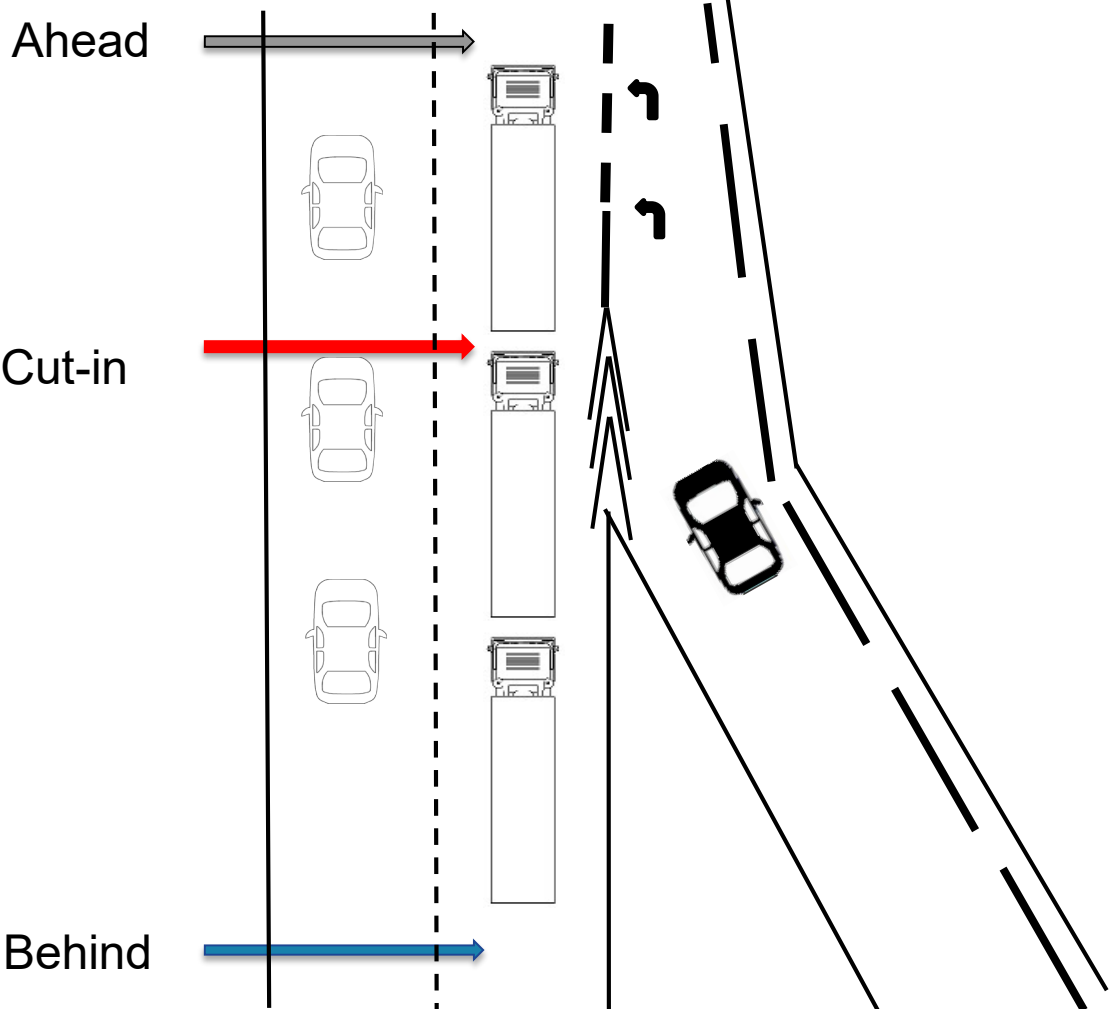


# Interaction between participant and platoon



# Subjective measures: 3-trucks platoon



**Entering the highway**

**High traffic:** intervehicle distance 0,8 sec

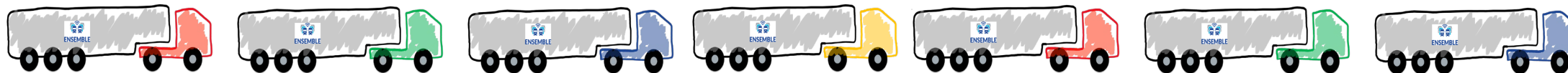


**Exiting the highway**

**High traffic:** intervehicle distance 0,8 sec



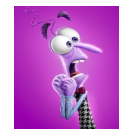
# Subjective measures: 7-trucks platoon



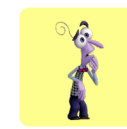
## Entering the highway

### High traffic:

- intervehicle distance 0,8 sec



Fear



Anxiety



Anger



Alertness

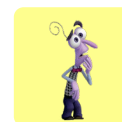
- intervehicle distance 1,5 sec



Anger

### Low traffic:

- intervehicle distance 1,5 sec



Anxiety



Anger

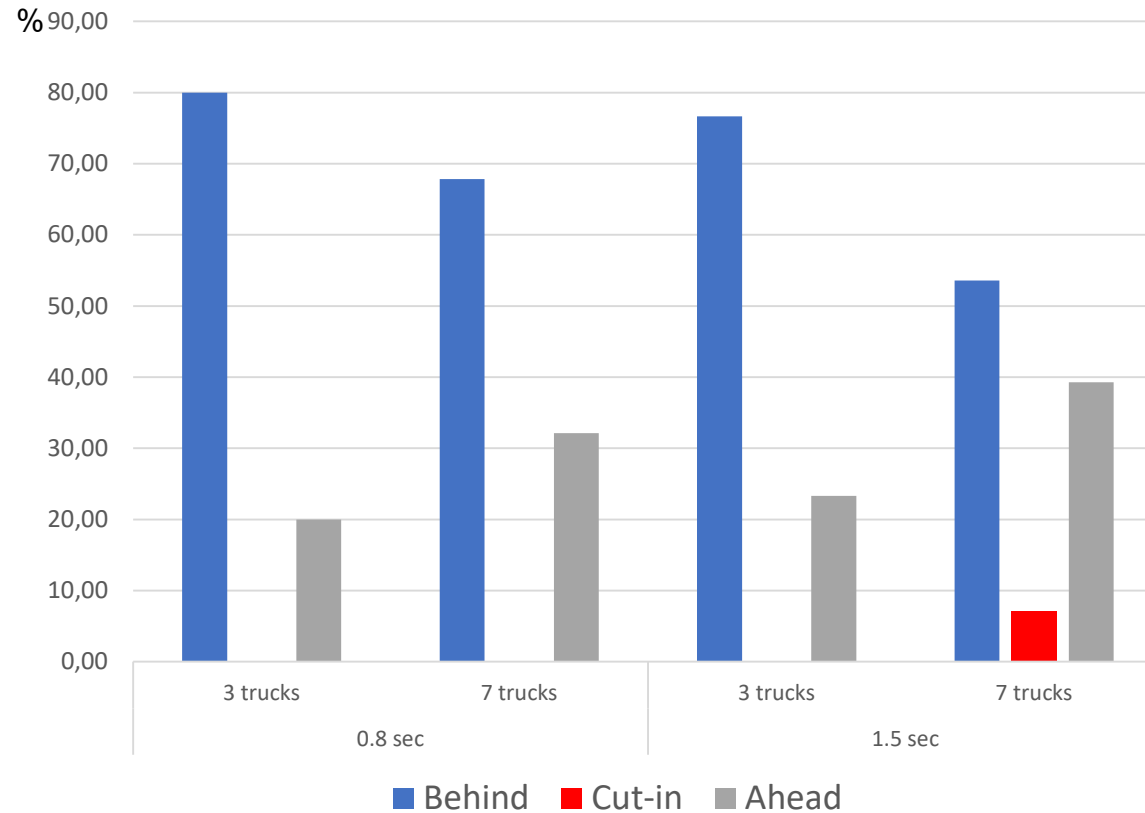
## Exiting the highway

- Low traffic: intervehicle distance 1,5 sec



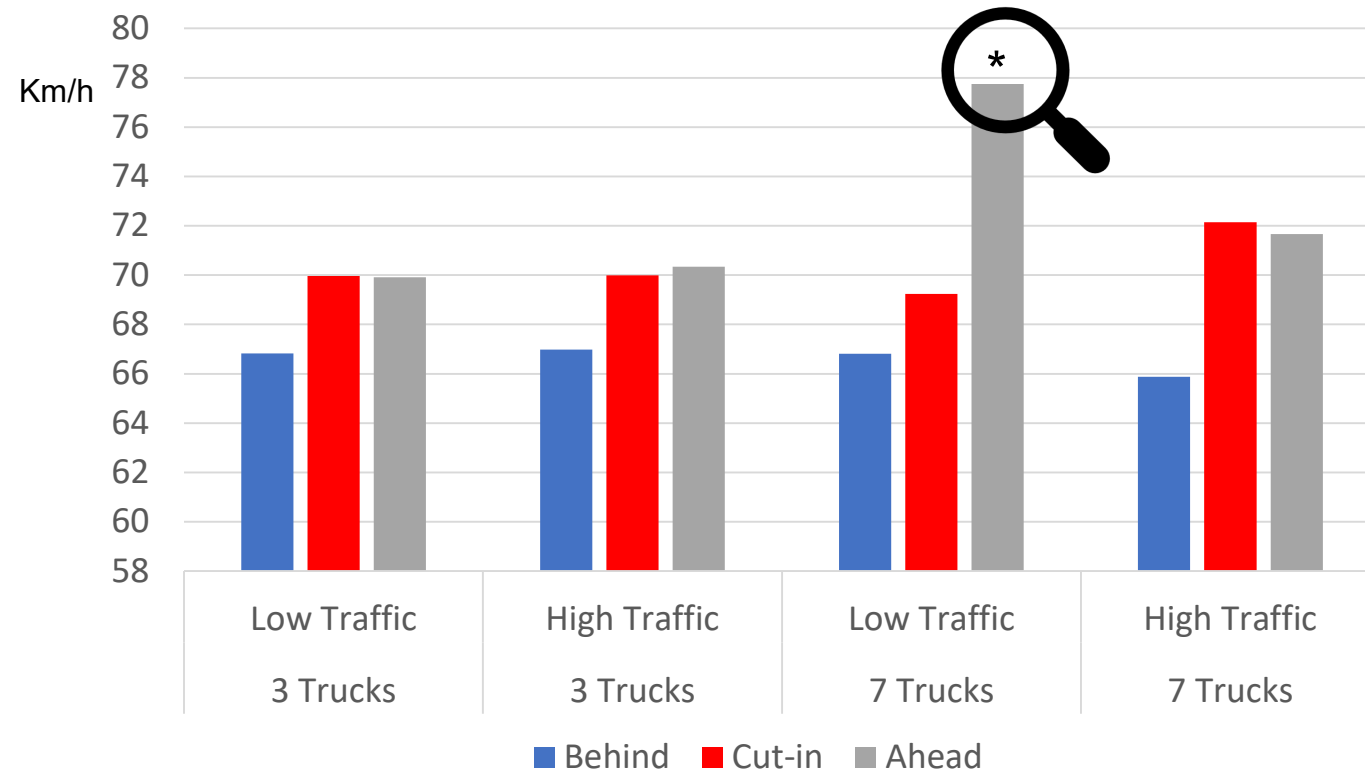
Anger

# Behavioural measures during egress



Whatever the conditions: **wait behind the platoon**

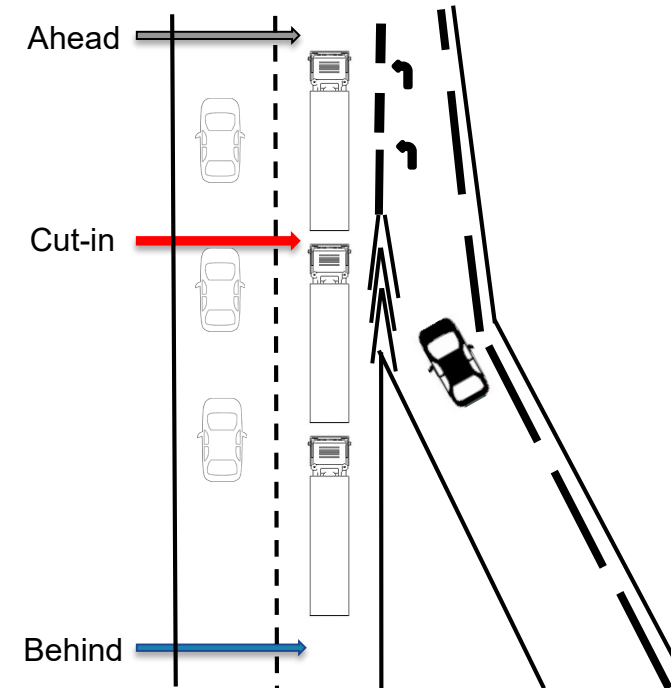
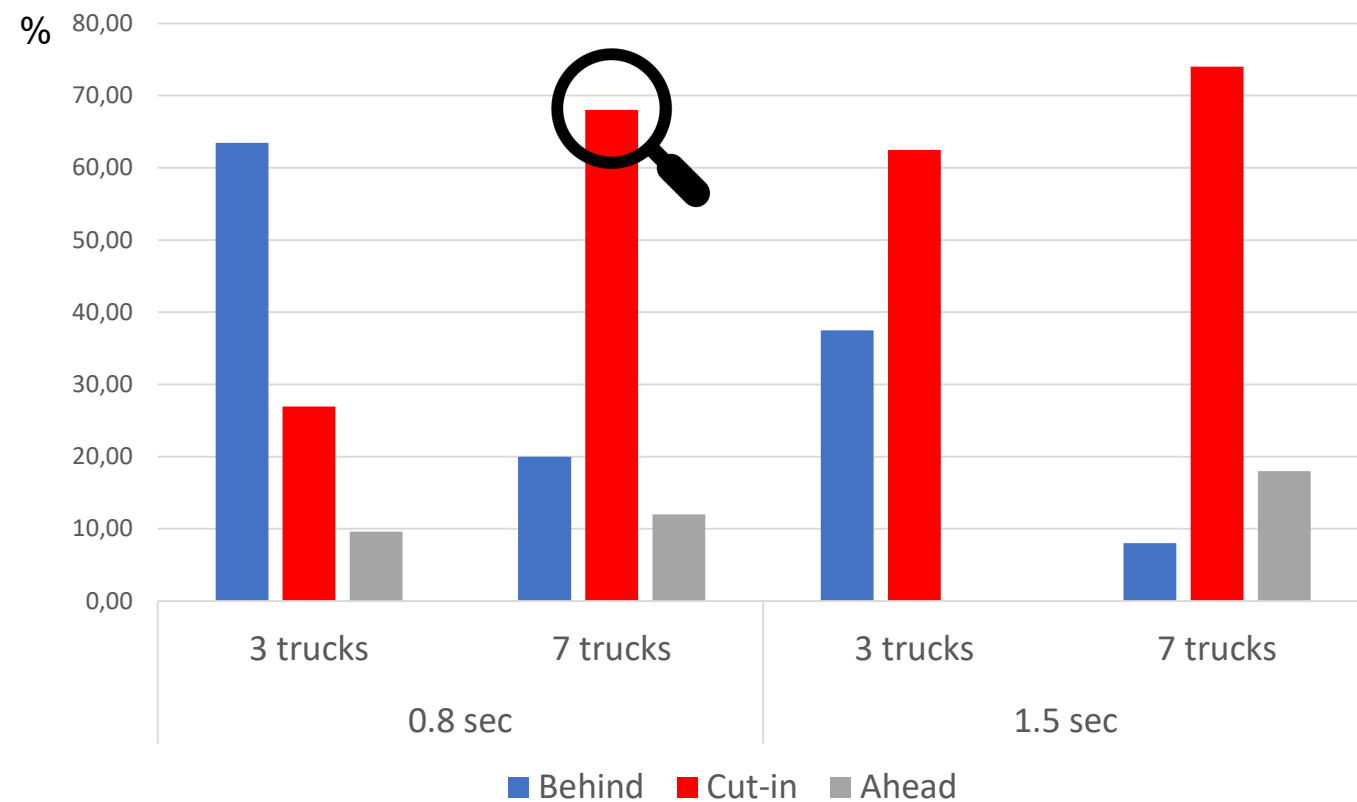
# Mean speed: Ingress



- Higher insertion speed with 7-trucks platoon and low traffic conditions

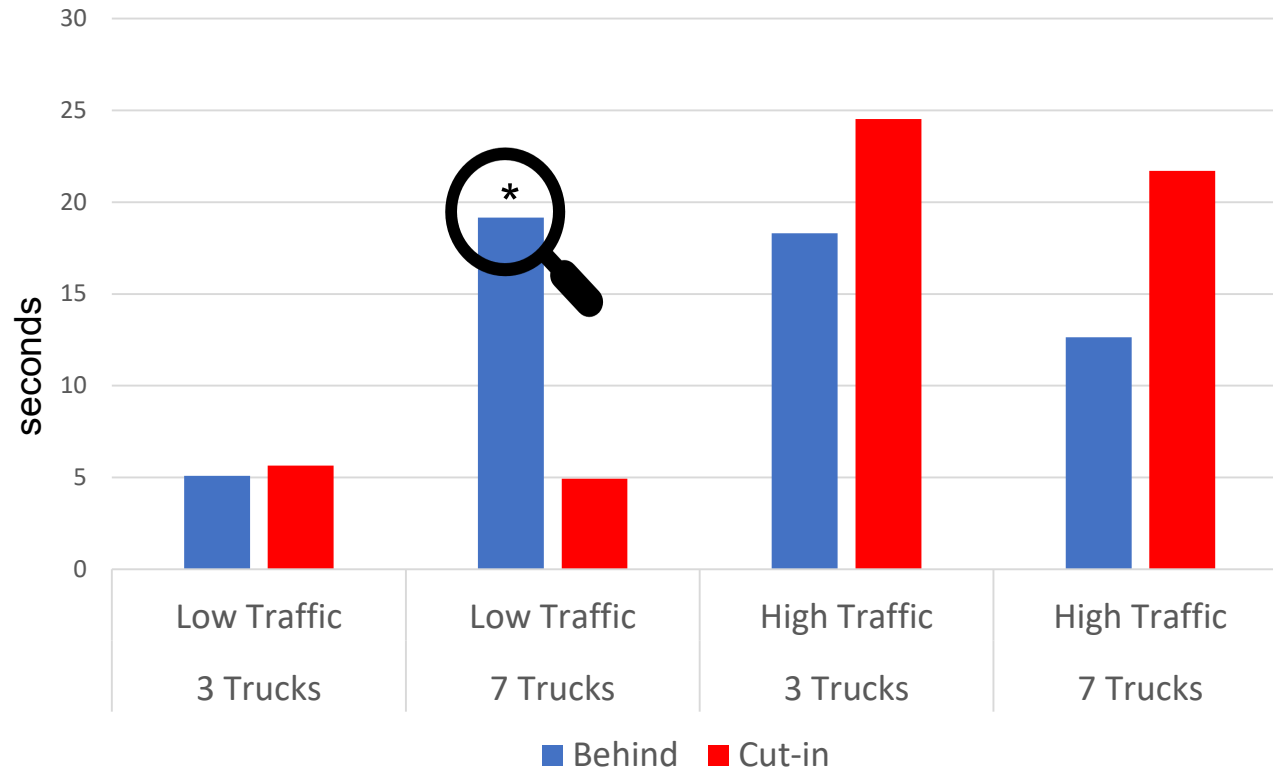
- All insertion speeds **under 80 km/h**

# Behavioural measures during ingress



Whatever the intervehicle distance and traffic: **7-trucks = cut-in**

# Time spent on the right lane after ingress



- Higher time spent behind 7-truck platoon during low traffic conditions ?
- Around 20 sec between trucks when cut-in during high traffic

# Synthesis of results

- Subjective measurements:



High traffic conditions



Anger



Low & High traffic conditions

0,8 secs intervehicle distance



Fear



Anxiety



Anger



Alertness



# Synthesis of results

- Behavioural measurements when entering the highway:



and



Speeds observed for all conditions between **64 km/h** and **75 km/h** (time constraint situation)



- Insertion behind the platoon when 0,8 sec intervehicle distance
- Cut-in when 1,5 sec intervehicle distance



Large number of cut-ins for any intervehicle distance  
(0.8 or 1.5 sec) and traffic

# Conclusion



- **No accident observed** (due to platooning functions)
- **7-trucks platoon** could induce **negative emotions**
- **Ingress** situation could be the **most critical** (**cut-ins and low insertion speed**)
- **High probability of dissolution** of the platoon during ingress situations



# Thank you for your attention



**ENSEMBLE**

**[platooningensemble.eu](http://platooningensemble.eu)**