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GTB
The International Automotive Lighting and Light Signalling Expert Group

How to reduce power consumption in existing lighting functions without reducing safety

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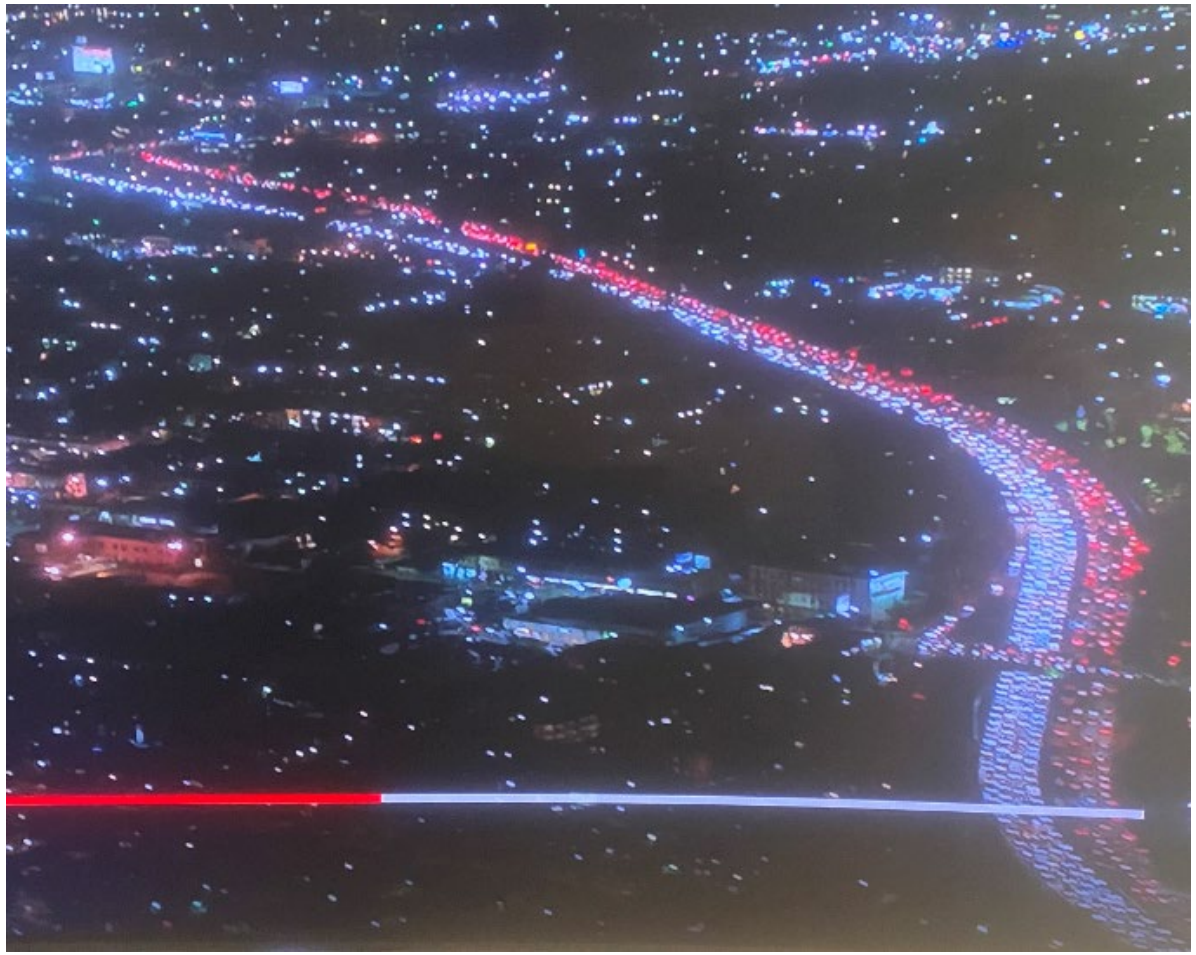
Background



… today's waste of energy

Motivation

Power consumption has become in the last 2 years one of the main concerns due to:

- New regulations about CO_2 emissions
- The willingness of all the automotive industry to reduce the carbon footprint
- Need to improve the efficiency of Electrical Vehicles

Lighting is one of the contributors to the power consumption

Limitations to the reduction of power consumption

1. **Design**
   Car makers wish to keep design flexibility, as lighting is one of the key factors that sells cars.

2. **Technology**
   LEDs are a very efficient light source (in lumen / watt terms) and enable a significant power reduction compared to incandescent light sources (with equal or better safety performance). The use of LED's was a very good first step, however even more efficient solutions are necessary.

3. **Regulation**
   Amendments to the regulatory provisions will be necessary to allow new technical solutions and lamp activation conditions and to include them in the eco-innovations mechanism.

GTB would like to focus on the third topic and develop proposals for GRE in the coming years

Modification of lighting regulations

Potential areas to work on:

- Function/lamp intensity versus exterior luminance
- Photometric grid versus traffic conditions (e.g. traffic jam, platooning, road with streetlights)
- Function activation

Some estimations suggest that it may be possible to save up to 20% of the exterior lighting average power consumption.

GTB intends to conduct independent research studies to assess the effective energy saving.