



Summary of the study on worn-out headlights

Background

Headlights that are more clouded on older vehicles than those on recent models are a frequent sight. Indeed, the headlight lenses can actually start to tarnish within the first few years of use, i.e., after three to four years. CAA-Quebec therefore set out to compare the power of automobile headlights in good condition with others whose lenses have already changed.

Study

CAA-Quebec's Automotive Advisory Services inspected the headlights on 500 vehicles in September 2014. The findings of its study were as follows:

- On 32% of vehicles studied, the headlights showed medium to very severe deterioration.
- That rate was 2% higher than that of the first sampling conducted by CAA-Quebec in 2010.
- Considering the number of vehicles inspected (500) and the inspection method, it is reasonable to assume that the problem affects the same proportion of vehicles in the overall Quebec vehicle population with similar characteristics (age, model).

Consequences

The Highway Safety Code states that a motorist driving with obstructed headlights faces a fine of between \$60 and \$100. CAA-Quebec, however, believes the monetary penalty is insufficient, because ineffective lighting is a hindrance to safe driving, since the majority of information gathered by the driver is visual. Clear headlight lenses enable a driver to see an obstacle about 60 metres sooner than with damaged lenses. At 40 km/h, that means six seconds more reaction time!

Figure 1 – Number of vehicles affected by clouded headlight lenses, total sample of 500 vehicles

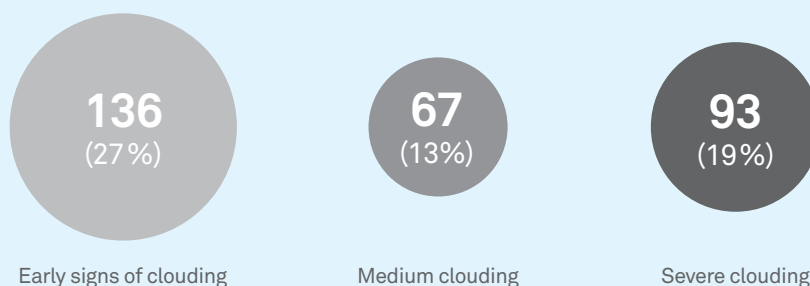
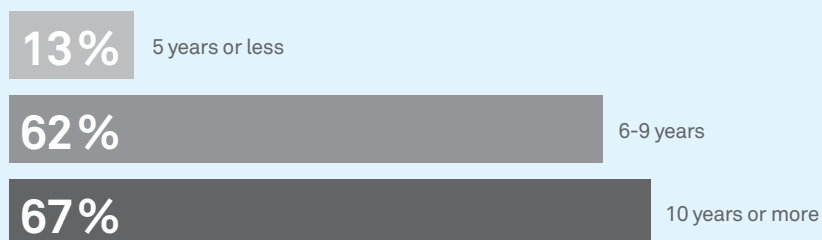


Figure 2 – Number of vehicles in sample requiring headlight restoration based on age (medium to severe clouding)



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Summary of the study on worn-out headlights (cont'd)

Causes

The causes of the problems studied are numerous:

- Ultraviolet radiation from sunlight
- Various types of road debris (sand, gravel, calcium, de-icers)
- Driving conditions
- Climate
- Total distance travelled
- Driving environment

Overview of the vehicle population

- In 2013, the average age of the vehicle population in Quebec was 7.2 years.
- Between 1993 and 2013, the number of light passenger vehicles (cars and light-duty trucks) on the road that were older than 10 years nearly tripled, reaching more than 1.25 million.
- At the time of this study, there were 4.7 million light passenger vehicles (cars and light-duty trucks) on the road.

(Source: Société de l'assurance automobile du Québec)

Conclusion and recommendations

In light of the preceding information, **CAA-Quebec recommends that:**

- **motorists** have the condition of their headlight lenses checked every three years and, if necessary, have them polished to ensure the best possible visibility while driving;
- **repair shops** systematically include headlight wear in their inspection checklists;
- **automakers** include instructions for headlight lens maintenance in the owner's manuals issued to purchasers of every vehicle they produce.



[Watch CAA-Quebec's demonstration video](#)

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