



## Statens vegvesen

### Bus fires in Norway

The data presented is collected from National Board of Civil Defence.

The main causes of fires in buses and coaches have been seen to be electrical faults and leakage of flammable liquids.

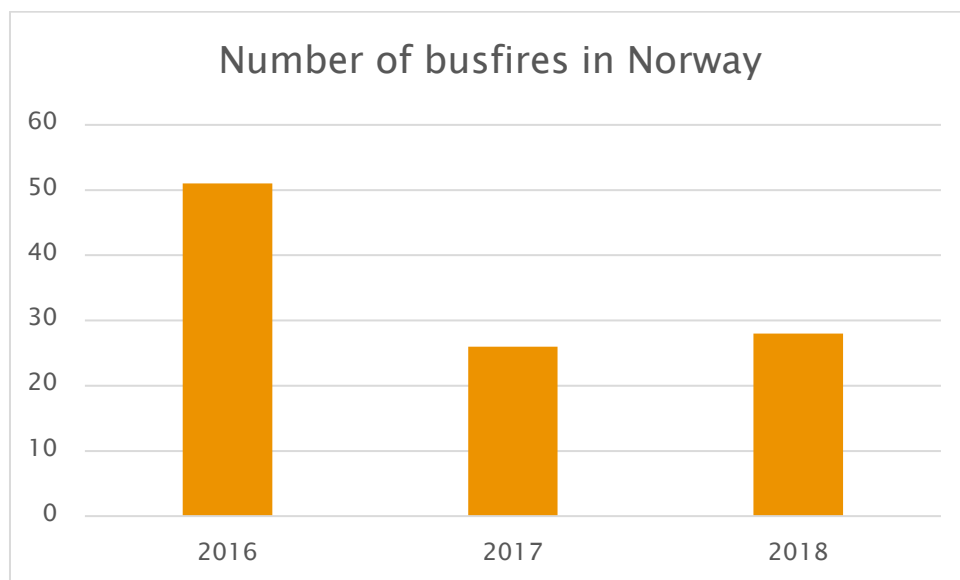
The numbers indicate that 1.0–1.4 % of all buses and coaches in service are involved in fires each year. This is an unacceptably high level since, in percentage terms, about 5–10 times as many buses and coaches catch fire as do heavy goods vehicles.

### Number of bus fires

\*2016: 51

\*\*2017: 26

Pr. 13.11.2018: 28



\*2016 a hybrid bus (Volvo 7900 Hybrid, first registered in 2013, constructed with a diesel engine of 177 KW and an electric motor) caught fire on Nettbuss charging-area in Oslo. The bus that caught fire stood adjacent to other busses, and totally four busses were completely damaged by the fire. The busses were situated in a 230 V charging area overnight,

and the busses were attached to an external 230 V power supply, which served the bus compartment heating system, the diesel engine's water heater, battery charger, and a heating cable for the lithium-ion batteries.

The investigation revealed that corrosion, heat development, creeping and arcing contributed to start the fire in the T-connector behind the 309-connector placed in the front of the bus. The wear and lubrication of the connector suggests that the safety monitoring of this equipment was deficient from the bus owner and user side. The wiring, couplings and connectors overall amounted for a marginalized construction. In addition, it came clear that the T-connector was not installed in compliance with the supplier's guidelines, and placed in a corrosive environment.



\*\* 2017:10 buses burned down by a bus garage - reason unknown

