



# Electric Vehicles TANK EMISSIONS

The American Lung Association quantifies the coming reduction in hazardous emissions from ICE vehicles as they are replaced with electric vehicles.

BY JOHN KOSOWATZ

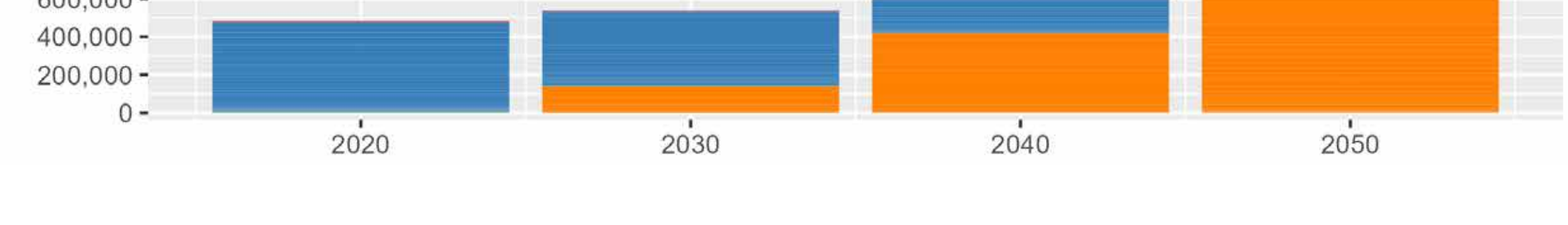
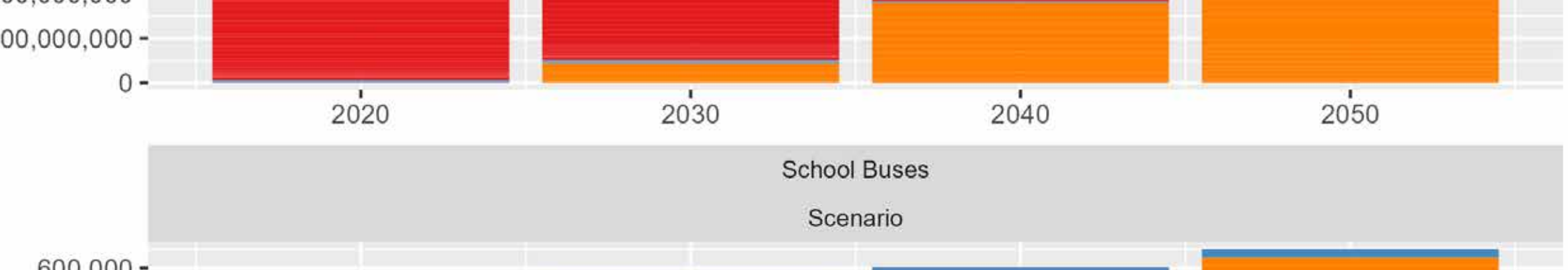
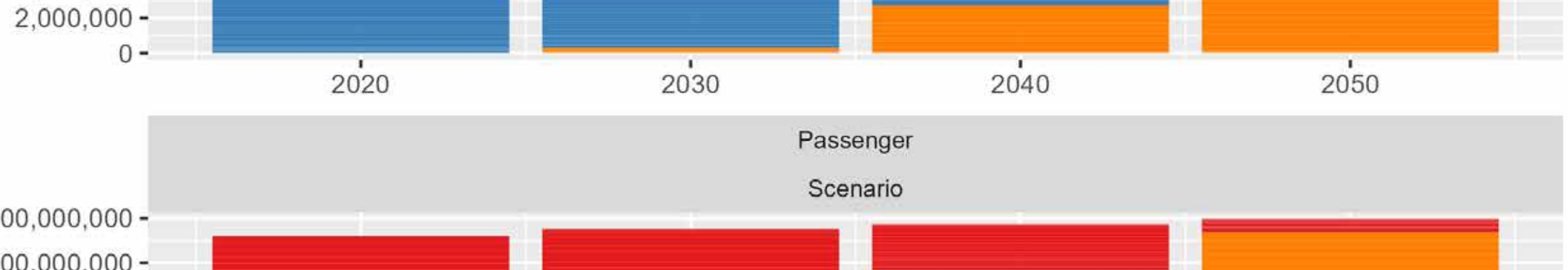
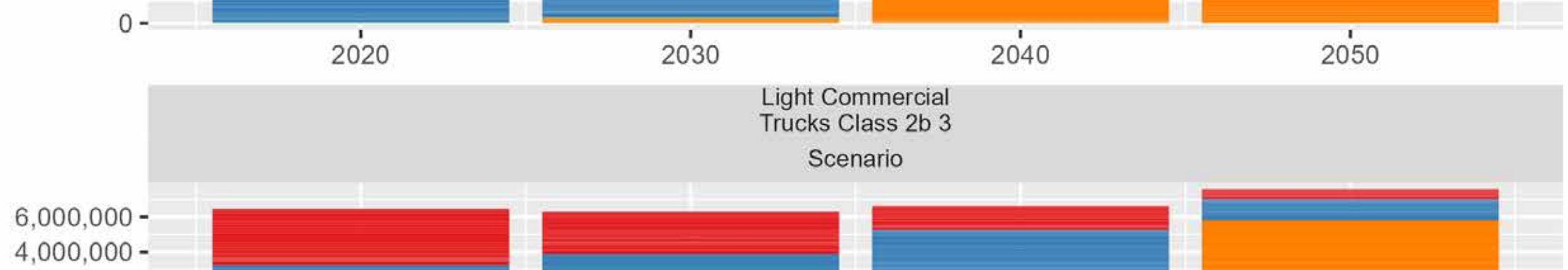
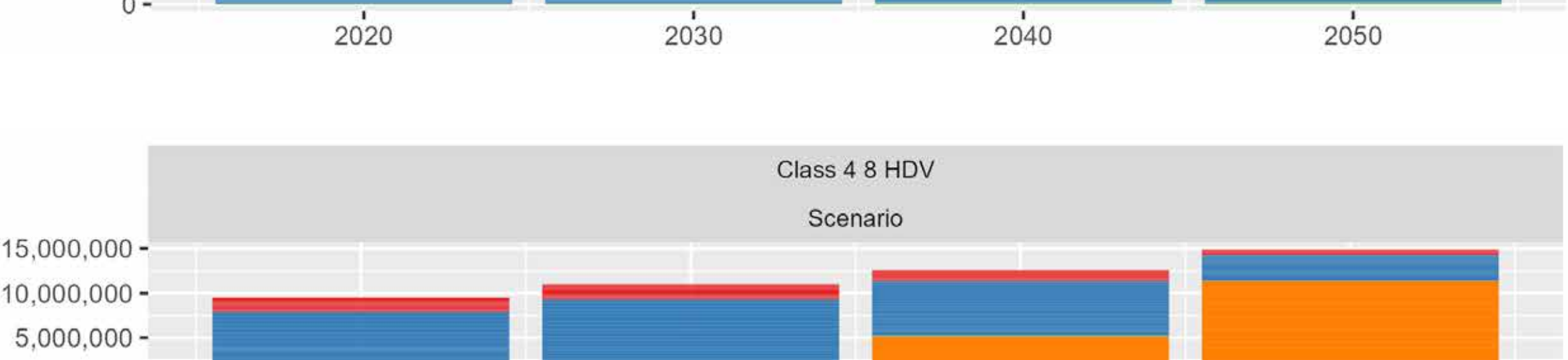
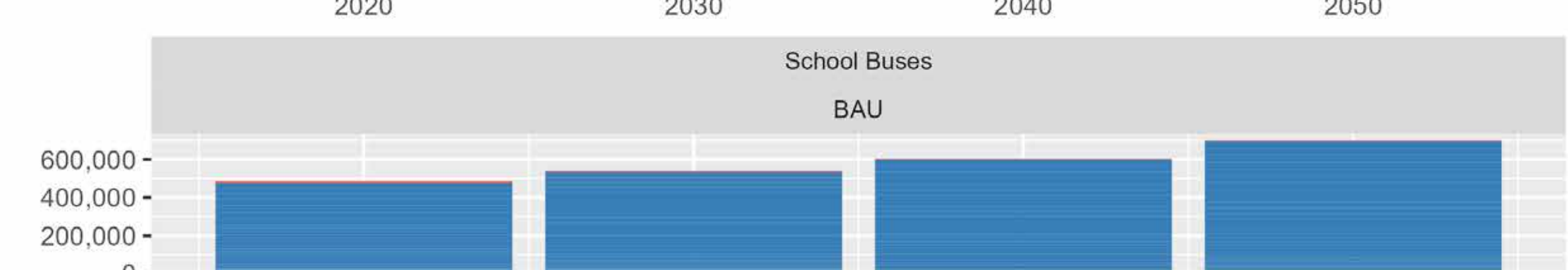
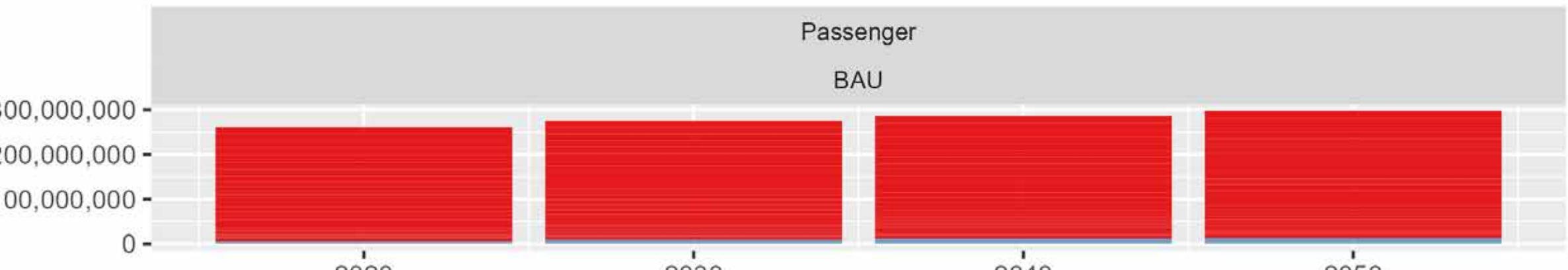
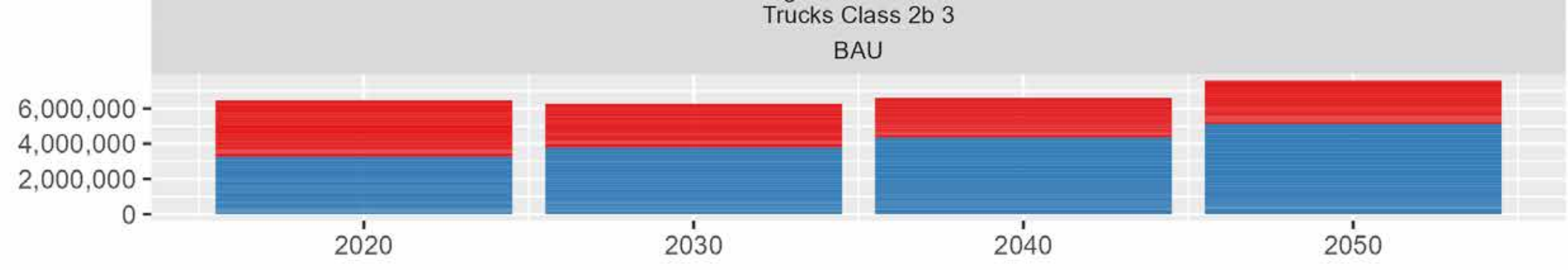
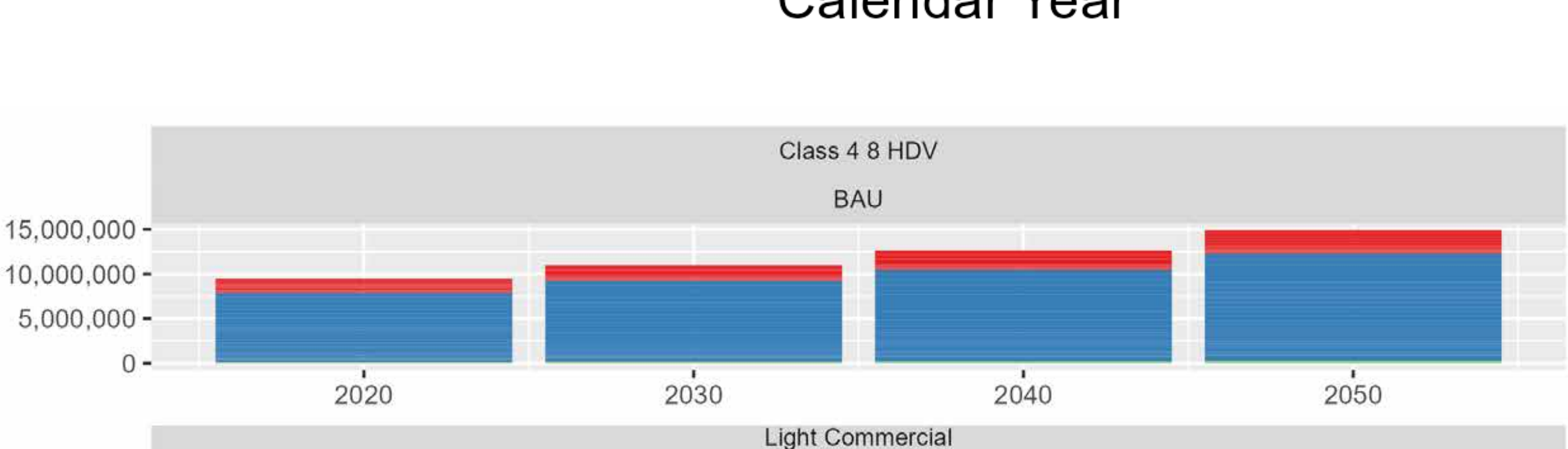
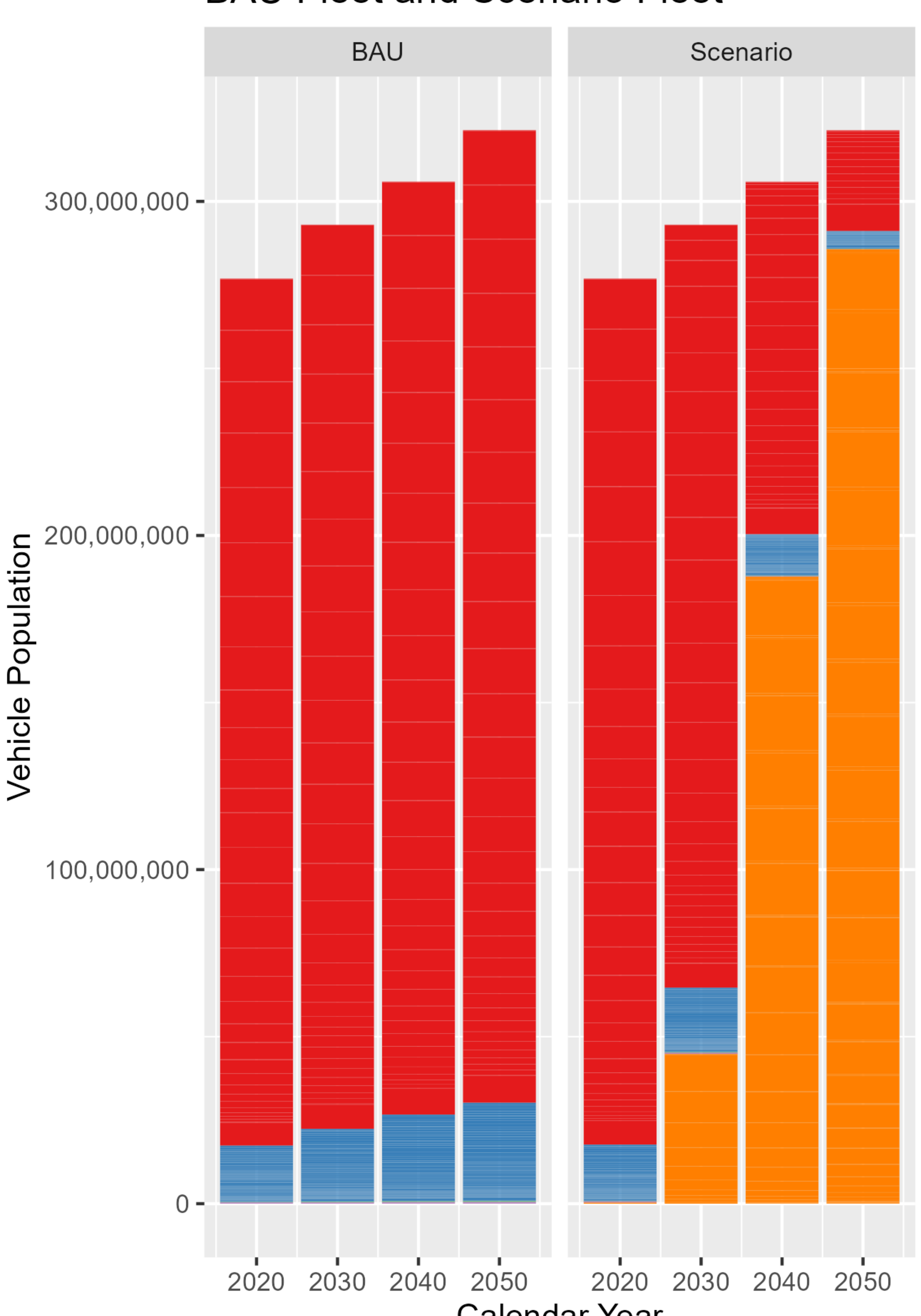
The quest to reduce global carbon emissions continues, with much of the attention focusing on fixed sources, such as fossil-fueled electric generating stations or industrial processes. But another leading source of carbon and other emissions is the ubiquitous internal combustion engine and its diesel counterpart. Besides greenhouse gases, particulate matter, volatile organic compounds (VOCs), and oxides of nitrogen also pose significant health hazards coming from vehicle tailpipes. The American Lung Association quantifies the significant drop of emissions through the adoption of electric vehicles.

The lung association's recent report on emissions quantifies expected reductions in the U.S. from a national shift to EVs by 2035 and trucks by 2040. Their estimates also assume a carbon-free grid, also an ambitious goal. Nevertheless, by 2030 the report claims nitrogen oxides, sulfur dioxide, and other greenhouse gases would be reduced by more than 50 percent compared to 2020. By 2040, VOCs and particulates would be reduced by more than 40 percent. In 2050, nitrogen and sulfur dioxides and greenhouse gases would drop more than 90 percent, VOCs by 78 percent, and particulates by 61 percent.

## Watching Electric Vehicles Supplant the Internal Combustion Engine

The American Lung Association modeled the coming penetration of electric vehicles into the U.S. automobile and truck markets through 2050. This estimates the share of EVs in the national fleet following the beginning of their sales of new vehicles. The business as usual model separates the population by vehicle category, fuel type, and model year is the four simulated years of 2020, 2030, 2040, and 2050. EVs were assumed to replace non-EV fuel type vehicles proportional to the makeup the type of non-EV vehicles. The first chart shows the makeup of the overall fleet under both scenarios. The second chart stratifies by vehicle type.

BAU Fleet and Scenario Fleet



Source: American Lung Association