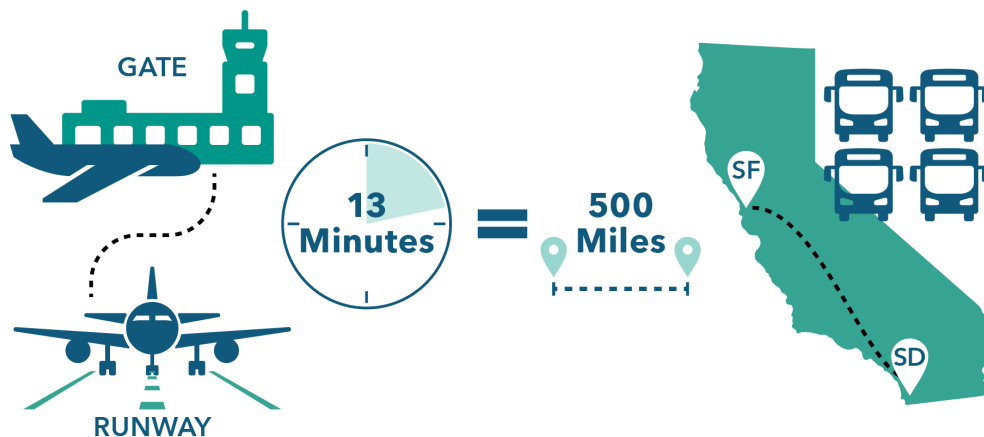
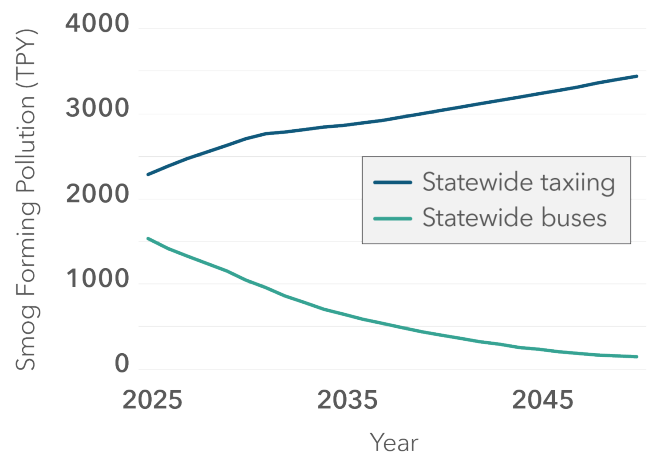


Commercial Aircraft Taxiing Emissions

Taxiing emissions are the largest source of emissions on airport aprons, where workers are directly exposed, and account for ~15% of total airport smog-forming emissions, which corresponds to nearly 70 million pounds of smog-forming pollution in California over the next decade.

Statewide commercial aircraft taxiing already exceeds statewide bus emissions (including all school, coach, and city buses) and will continue to increase in future years, while bus emissions decrease.



A typical commercial aircraft (which carries a similar number of passengers as 4 buses) will take 13 minutes to taxi from the gate to the runway. During that taxi time, the aircraft generates as much smog-forming pollution as 4 buses traveling 500 miles from San Diego to San Francisco.

Zero-Emission Taxiing Technologies

Zero-emission (ZE) taxiing technologies could save airlines \$125 million in annual statewide fuel expenses. ZE taxiing reduces emissions and exposure of airport workers who experience up to 7x higher ultrafine particle concentrations than indoor workers (Moller 2014).

One technology that can replace jet-engine taxiing is the Smart Airport Systems (SAS) Taxibot, shown here. The hybrid version of this technology has been deployed at airports in India since 2019 and in the Netherlands since 2024, taxiing 5,000+ flights globally. A ZE version of this technology became available in 2025 and will be deployed in the Netherlands this year.

