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Supplemental Material

Sociodemographic Patterns of Exposure to Civil Aircraft Noise in the United States

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Table of Contents

Table S5. Bayesian approach multivariable-adjusted odds ratio and confidence interval (CI) for block group exposure to day-night average sound level (DNL) ≥ 45 dB(A) (61 airports with ≥ 100 block groups within the buffer area) for a 10% increase in percent of block group with characteristic, in the main model controlling for all variables with airport random effect and in second model additionally adjusting for distance to airport.

Table S6. Bayesian approach multivariable-adjusted odds ratio and confidence interval (CI) for block group exposure to day-night average sound level (DNL) ≥ 55 dB(A) (61 airports with ≥ 100 block groups within the buffer area) for a 10% increase in percent of block group with characteristic, in the main model controlling for all variables with airport random effect and in second model additionally adjusting for distance to airport.

Table S7. Bayesian approach multivariable-adjusted odds ratio and confidence interval (CI) for block group exposure to day-night average sound level (DNL) ≥ 65 dB(A) (61 airports with ≥ 100 block groups within the buffer area) for a 10% increase in percent of block group with characteristic, in the main model controlling for all variables with airport random effect and in second model additionally adjusting for distance to airport.

Table S8. Multivariable-adjusted odds ratio for block group exposure to nighttime average sound level (LAeqN) ≥ 45 dB(A) (54 airports with ≥ 100 block groups within the buffer area) for a 10% increase in percent of block group with characteristic, in the main model controlling for all variables with adjustment for airport and in a second model additionally adjusting for distance to airport.

Table S9. Multivariable-adjusted odds ratio for block group exposure to nighttime average sound level (LAeqN) ≥ 55 dB(A) (10 airports with ≥ 100 block groups within the buffer area) for a 10% increase in percent of block group with characteristic, in the main model controlling for all variables with adjustment for airport and in a second model additionally adjusting for distance to airport.

Table S10. Univariable odds ratio for block group exposure to day-night average sound level (DNL) ≥45 dB(A) (86 airports with ≥100 block groups within the buffer area) for a 10% increase in percent of block group with each characteristic. N=74,170 block groups (21,296 exposed).

Table S11. Univariable odds ratio for block group exposure to day-night average sound level (DNL) ≥55 dB(A) (61 airports with ≥100 block groups within the buffer area) for a 10% increase in percent of block group with each characteristic. N=34,283 block groups (3,476 exposed).

Table S12. Univariable odds ratio for block group exposure to day-night average sound level (DNL) ≥65 dB(A) (15 airports with ≥100 block groups within the buffer area) for a 10% increase in percent of block group with each characteristic. N=4,031 block groups (158 exposed).

Table S13. Univariable odds ratio for block group exposure to nighttime average sound level (LAeqN) ≥45 dB(A) (54 airports with ≥100 block groups within the buffer area) for a 10% increase in percent of block group with each characteristic. N=25,970 block groups (1,837 exposed).

Table S14. Univariable odds ratio for block group exposure to nighttime average sound level (LAeqN) ≥55 dB(A) (10 airports with ≥100 block groups within the buffer area) for a 10% increase in percent of block group with each characteristic. N=2,151 block groups (58 exposed).

Figure S1. Mean-difference plots for socially vulnerable groups: A) non-Hispanic Black, B) non-Hispanic Asian, C) Hispanic, D) non-Hispanic Other, E) no high school diploma or GED, F) high school diploma or GED only, G) annual household income <$25,000, H) annual household income $25,000 to <$50,000, and I) annual household income $50,000 to <$75,000. In plots A-I, each airport-specific relationship is represented by a point ($n_{airport}$=86), where the x-axis is the mean of the percent socially vulnerable group for all block groups within the maximum extent and the y-axis is the mean difference between the percent exposed for the socially vulnerable group and the airport mean. Airports above the zero line were those found to have block groups with a *greater* percentage of socially vulnerable groups within the 45-dB(A) noise contour than the mean of all block groups around that airport (i.e., more exposed). Airports below the zero line were those found to have block groups with a *lower* percentage of socially vulnerable groups within the 45-dB(A) noise contour than the mean of all block groups around that airport (i.e., less exposed). Points along the zero line are airports where there is no difference in percent socially vulnerable groups within the DNL 45-dB(A) contour (i.e., exposed) relative to the airport mean. Dashed lines are the mean of the mean differences across all airports.

Figure S2. Mean-difference plots for socially vulnerable groups: A) non-Hispanic Black, B) non-Hispanic Asian, C) Hispanic, D) non-Hispanic Other, E) no high school diploma or GED, F) high school diploma or GED only, G) annual household income <$25,000, H) annual household income $25,000 to <$50,000, and I) annual household income $50,000 to <$75,000. In plots A-I, each airport-specific relationship is represented by a point ($n_{airport}$=14), where the x-axis is the mean of the percent socially vulnerable group for all block groups within the maximum extent and the y-axis is the mean difference between the percent exposed for the socially vulnerable group and the airport mean. Airports above the zero line were those found to have block groups with a *greater* percentage of socially vulnerable groups within the 65-dB(A) noise contour than the mean of all block groups around that airport (i.e., more exposed). Airports below the zero line were those found to have block groups with a *lower* percentage of socially vulnerable groups within the 65-dB(A) noise contour than the mean of all block groups around that airport (i.e., less exposed). Points along the zero line are airports where there is no difference in percent socially vulnerable groups within the DNL-65 dB(A) contour (i.e., exposed) relative to the airport mean. Dashed lines are the mean of the mean differences across all airports.