

## Appendix 2 – Literature Review

The following is a (not comprehensive) list of studies that the FAA should analyze to determine the proper noise thresholds moving forward. They are separated by subject matter. These studies must be included in any analysis of the health impacts of aviation noise on the public and used as the basis for setting noise thresholds and mitigation measures.

### Noise as a public health issue:

1. American Speech and Hearing Association. Proceedings of the Conference: Noise as a Public Health Hazard. Washington, DC: American Speech and Language Association; 1968.
2. Basner M, Babisch W, Davis A, et al. Auditory and non-auditory effects of noise on health. *Lancet*. 2014;383(9925):1325–1332.
3. Beutel, M.E., Brahler, E., Ernst, M., Noise annoyance predicts symptoms of depression, anxiety, and sleep disturbance 5 years later. Findings from the Gutenberg Health Study. 30 *European Journal of Public Health*, 487 (2020).
4. Bronzaft AL. Impact of noise on health: the divide between policy and science. *Open J Soc Sci*. 2017;5:108–120.
5. Centers for Disease Control and Prevention. Preventing noise-induced hearing loss. Available at: <https://www.cdc.gov/ncbddd/hearingloss/noise.html>.
6. Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety. Washington, DC: U.S. Environmental Protection Agency; 1974.
7. Fink DJ. A new definition of noise: noise is unwanted and/or harmful sound. Noise is the new ‘secondhand smoke.’ *Proc Mtgs Acoust*. 2019;39:050002.
8. Fritschi L, Brown AL, Kim R, Schwela D, Kephelopoulos S, eds. Burden of Disease From Environmental Noise. Bonn: World Health Organization; 2011.
9. Hahad O, Prochaska JH, Daiber A, Münzel T. Environmental noise-induced effects on stress hormones, oxidative stress, and vascular dysfunction: key factors in the relationship between cerebrocardiovascular and psychological disorders. *Oxid Med Cell Longev*. 2019;2019:4623109.
10. Hammer M, Neitzel R, Swinburn T. Environmental noise pollution in the United States: launching an effective public health response to prevent heart disease, hearing loss, and other health effects. *Environ Health Perspect*. 2014;122:115–119
11. Klätte M, Bergström K, Lachmann T. Does noise affect learning? A short review on noise effects on cognitive performance in children. *Front Psychol*. 2013;30:578.
12. Lusk SL, McCullagh M, Dickson VV, Xu J. Reduce noise: Improve the nation’s health. *Nurs Outlook*. 2017;65(5):652–656.
13. Münzel T, Kröller-Schön S, Oelze M, et al. Adverse cardiovascular effects of traffic noise with a focus on nighttime noise and the new WHO noise guidelines. *Annu Rev Public Health*. 2020;41:309–328.
14. Münzel T, Schmidt FP, Steven S, Herzog J, Daiber A, Sørensen M. Environmental noise and the cardiovascular system. *J Am Coll Cardiol*. 2018;71(6):688–697. Neitzel R. Chronic Health Effects and Injury Associated With Environmental Noise Pollution. Atlanta, GA: U.S. Centers for Disease Control and Prevention; 2018.
15. Neitzel RL, Gershon RRM, McAlexander TP, Magda LA, Pearson JM. Exposures to transit and other sources of noise among New York City residents. *Environ Sci Technol*. 2012;46(1):500–508.
16. Supplemental Metrics for Day-Night Average Sound Level and Day-Evening-Night Average Sound Level: Final Report. Reston, VA: International Institute of Noise Control Engineering; 2015.

17. van Kempen E, Casas M, Pershagen G, Foraster M. WHO environmental noise guidelines for the European region: a systematic review on environmental noise and cardiovascular and metabolic effects: a summary. *Int J Environ Res Public Health*. 2018;15(2):379.
18. Weuve J, D'Souza J, Beck T, et al. Long-term community noise exposure in relation to dementia, cognition, and cognitive decline in older adults. *Alzheimers Dement*. 2021;17:525–533.

#### **Adverse health effects of aviation noise:**

1. Babisch W, Kamp I. Exposure-response relationship of the association between aircraft noise and the risk of hypertension. *11 Noise Health* 161 (2009).
2. Basner M, Clark C, Hansell A, et al. Aviation noise impacts: state of the science. *Noise Health*. 2017;19(87):41–50.
3. Clark C., Martin R., van Kempen E., Alfred T., Head J. Davies HW, et al., Exposure-effect relations between aircraft and road traffic noise exposure at school and reading comprehension – The RANCH project, *163 Am. J. Epidemiol.* 27 (2006).
4. Correia AW, Peters JL, Levy N, Melly S, Dominici F., Residential exposure to aircraft noise and hospital admissions for cardiovascular diseases: Multi-airport retrospective study, *347 BMJ* f5561, (October 8, 2013).
5. Floud S, Blangiardo M, Clark C, Babisch w, Houthuijs D, Pershagen G, et al., Reported heart disease and stroke in relation to aircraft and road traffic noise in six European countries – The HYENA study, *23 Epidemiology* 39 (2012).
6. Haralabidis AS, Dimakopoulou K, Vigna-Taglianti F, Giampaolo M, Borgini A, Dudley ML, et al., Acute effects of night-time noise exposure on blood pressure in populations living near airports, *29 Eur. Heart J.* 658 (2008).
7. Huss A, Spoerri A, Egger M, Roosli M. Aircraft noise, air pollution, and mortality from myocardial infarction, *21 Epidemiology* 829 (2010).
8. National Academies of Sciences, Engineering, and Medicine. *Assessing Aircraft Noise Conditions Affecting Student Learning, Volume 1: Final Report*. Washington, DC: National Academies Press; 2014.
9. Schmidt FP, Basner M, Kroger G, Weck S, Schnorbus B, Muttray A, et al., Effect of nighttime aircraft noise exposure on endothelial function and stress hormone release in healthy adults, *34 Eur. Heart J.* 3508 (2013).
10. World Health Organization. *Environmental Noise Guidelines for the European Region*. Copenhagen: World Health Organization Regional Office for Europe: 2018.

#### **Economic cost of noise:**

1. Huddle MG, Goman AM, Kernizan FC, et al. The economic impact of adult hearing loss: a systematic review. *JAMA Otolaryngol Head Neck Surg*. 2017;143(10):1040–1048.
2. Neitzel R, Swinburn TK, Hammer MS, Eisenberg D. Economic impact of hearing loss and reduction of noise-induced hearing loss in the United States. *J Speech Lang Hear Res*. 2017;60:182–189.
3. Reed NS, Altan A, Deal JA, et al. Trends in health care costs and utilization associated with untreated hearing loss over 10 years. *JAMA Otolaryngol Head Neck Surg*. 2019;145(1):27–34.
4. Swinburn TK, Hammer MS, Neitzel RL. Valuing quiet: an economic assessment of U.S. environmental noise as a cardiovascular health hazard. *Am J Prev Med*. 2015;49(3):345–353.

### **Environmental/Social Justice and noise:**

1. Casey JA, Morello-Frosch R, Mennitt DJ, Fristrup K, Ogburn EL, James P. Race/ethnicity, socioeconomic status, residential segregation, and spatial variation in noise exposure in the contiguous United States. *Environ Health Perspect* 2017;125:07701.
2. Collins TW, Grineski SE, Nadybal S. Social disparities in exposure to noise at public schools in the contiguous United States. *Environ Res.* 2019;175:257–265.
3. Collins TW, Nadybal S, Grineski SE. Sonic injustice: disparate residential exposures to transport noise from road and aviation sources in the continental United States. *J Transport Geography.* 2020;82:102604.
4. Seltenrich N. Inequality of noise exposures: a portrait of the United States. *Environ Health Perspect.* 2017;125(9):094003.
5. van Kamp I, Davies H. Noise and health in vulnerable groups: a review. *Noise Health.* 2013;15(64):153–159.