

To Whom It May Concern,

I am currently live in an apartment in Luton town centre area. Here are my serval opinions about the London Luton Airport Expansion. The airport expansion represents more frequent aircraft take-offs. And the vibrations caused by aircraft take-offs can have varying effects on building structures. Following are some examples:

1. **Cracks in Walls and Ceilings:** The repeated vibrations from aircraft take-offs can lead to cracks in walls and ceilings. These cracks may start small but could widen over time due to the cumulative effect of vibrations. There are some cracks appears on my apartment ceiling already.
2. **Loosening of Building Components:** Vibrations can cause screws, bolts, and other fasteners to gradually loosen, potentially compromising the structural integrity of the building.
3. **Settlement and Foundation Issues:** Intense vibrations can lead to differential settlement of the building's foundation. This can result in uneven settling of the structure, leading to problems such as tilting floors and misaligned doors and windows.
4. **Deterioration of Materials:** Continuous vibrations can accelerate the wear and tear of building materials, especially in areas where materials are joined or connected. This can lead to premature deterioration and necessitate more frequent maintenance in the future.
5. **Disruption of Building Occupants:** Vibrations can cause discomfort to the building's occupants, leading to a less desirable living or working environment. It might affect concentration, sleep quality, and overall well-being.
6. **Structural Fatigue:** Over time, the constant vibrations can contribute to structural fatigue in certain building components, particularly those sensitive to dynamic loading. This can potentially reduce the building's overall lifespan.
7. **Noise Transmission:** Vibrations from aircraft take-offs can also transmit noise through the building's structure, making the interior environment noisier and less peaceful.
8. **Safety Concerns:** In extreme cases, excessive vibrations from frequent aircraft take-offs could pose safety risks if the existing building's structural integrity is compromised. This might lead to evacuation or even the need for structural repairs.
9. **Aesthetics:** Vibrations can contribute to wear and tear on the building's exterior, potentially affecting its visual appeal and requiring more frequent maintenance and cleaning.

To mitigate the potential negative effects of aircraft take-off vibrations on building structures, engineers and architects may employ various design strategies, such as incorporating vibration damping materials, adjusting building orientation, and implementing resilient building techniques for the new-build buildings. But what about the existing buildings? Who is going to cover the cost of maintenance or repair for the property owners of the existing buildings in the future? And poor condition of the property leads to lower market value. Are the property owners going to get compensation when they selling.

Based on the open hearing on 10th Aug 2023, the soundproof measures are most likely to be the double-glazing windows replacement. My apartment building currently has the double-glazing windows. It is quite good if the windows are fully closed. But during summer, we still have to open the windows for ventilation or cooling down for a long period. Therefore, the soundproof advantage will not exist during the summer time. Especially if impacted by the heat wave like last year. And due to the climate change, we are likely to have extreme weather condition more frequently. Therefore, I believe double glazing should not be the only soundproof measure option for the affected areas.

In addition, I believe the more airport take-offs may creating constant wind load to the building structures. Are the existing buildings such as my apartment building can tolerate that would be my question.

Thank you very much

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