

Nitrogen dioxide (NO₂) concentrations along Aldersgate Street and Goswell Road

The data below is presented to give an indication of how the air pollution along Aldersgate Street compares to that in Beech Street, and where possible, how it impacts on residents in the area.

The monitors are located on lamp posts approximately 2m from the ground. There is a rapid reduction in concentrations of nitrogen dioxide with distance from the source, which in this case is road vehicles. This is due to dilution with cleaner air and atmospheric chemistry.

The Department of Environment Food and Rural Affairs provides a calculator to enable us to calculate the concentration at set distances away from the measuring location. The calculated values, given in the table below, are approximate, especially in the case of location C and E which are influenced by other roads as they are located on a junction.

The annual average NO₂ in Beech Street in 2022 (within the covered section) was 40.6 µg/m³. This measurement was taken at the building façade. For comparison, if this was taken at 0.5m from the roadside, as is the case of most locations in Aldersgate Street, the concentration would be higher, probably about 45 µg/m³. The pavement in this location is approximately 1.5m wide.

Our statutory obligations require us to take action if annual average concentrations are above 40 µg/m³ anywhere in the Square Mile. However, if we are just considering impact on health alone, an annual average would apply to places where people spend a lot of time such as residential units, schools, hospitals and care homes. There is also an hourly average limit for nitrogen dioxide which is 200µg/m³. It is a lot higher than the annual average limit as people can tolerate higher concentrations, but just for a short period of time. As a rule of thumb, if the annual average is above 60 µg/m³, it is likely that the hourly average would be breached. Again, if we are just considering impact on health alone, and not statutory obligations, this would apply anywhere that people spend an hour or more of their time.



Location	Measured average reading of NO ₂ in 2022	Calculated reading at building facade
A Goswell Road	34.7 µg/m ³ 0.5m from the kerb	30.4 µg/m ³ 2.5m away, directly outside Crescent House flat window
B Aldersgate Street	43.5 µg/m ³ 0.5m from the kerb	35.2 µg/m ³ 3.5m away, at the nearest façade, which isn't residential
C Corner of Aldersgate Street and Beech Street	36.7 µg/m ³ 2.5m from the kerb	28.6 µg/m ³ 17m away, at Lauderdale Tower
D Aldersgate Street	43 µg/m ³ 0.5m from the kerb	34.4 µg/m ³ 4m away at the nearest façade, which isn't residential
E M of L rotunda south side (corner of Aldersgate Street & London Wall)	36.7 µg/m ³ 0.5m from the kerb	29.1 µg/m ³ 6m away, the nearest façade, which isn't residential