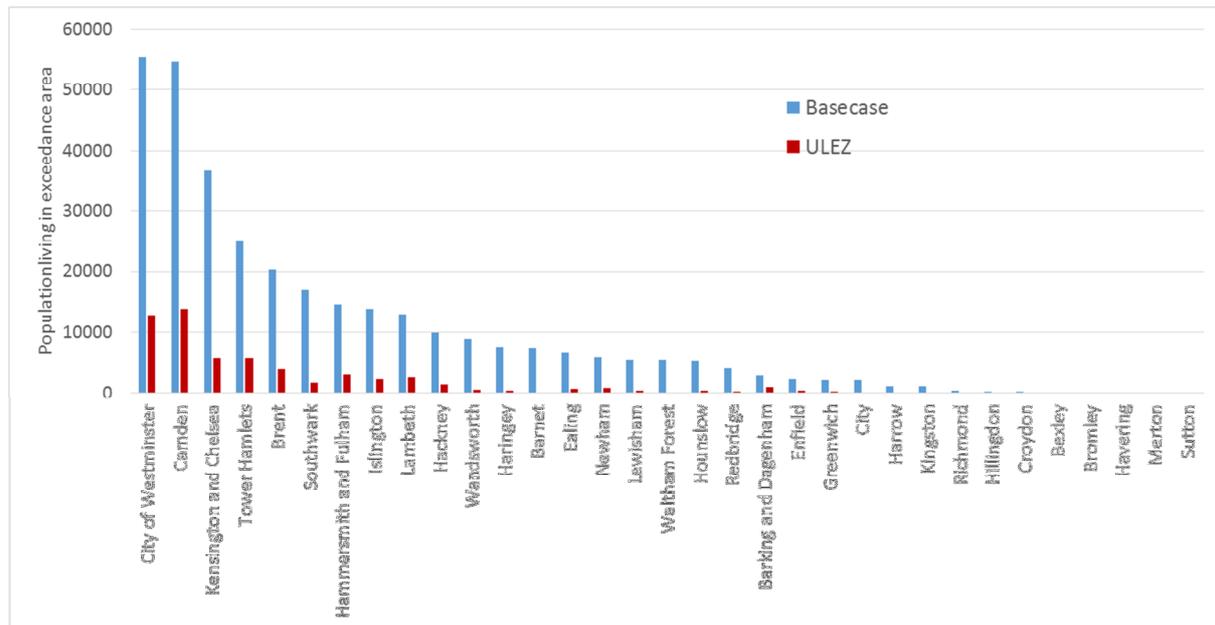# Ultra Low Emission Zone Integrated Impact Assessment

Health Impact Assessment

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In association with:

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Figure D10: Population living in areas exceeding the NO$_2$ annual Limit Value by borough for the basecase and scenario in 2025. Boroughs have been ordered with decreasing population in exceedance areas in the basecase from left to right**.**

The figures show that the impact of the ULEZ is larger for the most central boroughs and smaller for the boroughs in outer London. This can be seen in the results for both 2020 and 2025.

1.4 Population-weighted average concentrations

Emissions reductions as a result of the implementation of the ULEZ scenario lead to decreases in the concentrations of air pollutants in the GLA area.

The impacts of the ULEZ scenario have been modelled for two different years: 2020 and 2025. The modelled ambient NO$_2$, PM$_{10}$ and PM$_{2.5}$ concentrations are presented in the tables below.

Table D3: Population-weighted mean of annual mean NO$_2$ concentration by area (central/inner/outer and London-wide) in 2020 for each scenario.

Scenario	Location	Population weighted annual mean concentration (μgm^{-3})	Difference from basecase (μgm^{-3})	Percentage difference from basecase
Basecase	Central	42.5	-	-
	Inner	34.7	-	-
	Outer	28.2	-	-
	London-wide	31.0	-	-
ULEZ	Central	37.0	-5.4	-12.8%
	Inner	32.9	-1.8	-5.3%
	Outer	27.3	-0.9	-3.3%
	London-wide	29.6	-1.4	-4.4%

Table D4: Population weighted mean of annual mean NO$_2$ concentration by area (central/inner/outer and London-wide) in 2025 for each scenario.

Scenario	Location	Population weighted annual mean concentration (μgm^{-3})	Difference from basecase (μgm^{-3})	Percentage difference from basecase
Basecase	Central	36.5	-	-
	Inner	30.5	-	-
	Outer	25.0	-	-
	London-wide	27.3	-	-
ULEZ	Central	33.8	-2.7	-7.4%
	Inner	29.8	-0.7	-2.3%
	Outer	24.7	-0.3	-1.1%
	London-wide	26.8	-0.5	-1.8%

Table D5: Population weighted mean of annual mean PM$_{10}$ concentration by area (central/inner/outer and London-wide) in 2020 for each scenario.

Scenario	Location	Population weighted annual mean concentration (μgm^{-3})	Difference from basecase (μgm^{-3})	Percentage difference from basecase
Basecase	Central	24.7	-	-
	Inner	22.6	-	-
	Outer	21.0	-	-
	London-wide	21.7	-	-
ULEZ	Central	24.5	-0.2	-0.8%
	Inner	22.5	-0.1	-0.2%
	Outer	21.0	0.0	-0.1%
	London-wide	21.6	0.0	-0.2%

Table D6: Population weighted mean of annual mean PM$_{10}$ concentration by area (central/inner/outer and London-wide) in 2025 for each scenario.

Scenario	Location	Population weighted annual mean concentration (μgm^{-3})	Difference from basecase (μgm^{-3})	Percentage difference from basecase
Basecase	Central	24.3	-	-
	Inner	22.3	-	-
	Outer	20.8	-	-
	London-wide	21.4	-	-
ULEZ	Central	24.3	-0.1	-0.2%
	Inner	22.3	0.0	0.0%
	Outer	20.8	0.0	0.0%
	London-wide	21.4	0.0	0.0%

Table D7: Population weighted mean of annual mean PM$_{2.5}$ concentration by area (central/inner/outer and London-wide) in 2020 for each scenario.

Scenario	Location	Population weighted annual mean concentration (μgm^{-3})	Difference from basecase (μgm^{-3})	Percentage difference from basecase
Basecase	Central	14.4	-	-
	Inner	13.1	-	-
	Outer	12.3	-	-
	London-wide	12.6	-	-
ULEZ	Central	14.3	-0.2	-1.1%
	Inner	13.1	0.0	-0.3%
	Outer	12.3	0.0	-0.1%
	London-wide	12.6	0.0	-0.2%

Table D8: Population weighted mean of annual mean PM$_{2.5}$ concentration by area (central/inner/outer and London-wide) in 2025 for each scenario.

Scenario	Location	Population weighted annual mean concentration (μgm^{-3})	Difference from basecase (μgm^{-3})	Percentage difference from basecase
Basecase	Central	13.9	-	-
	Inner	12.6	-	-
	Outer	11.8	-	-
	London-wide	12.2	-	-
ULEZ	Central	13.9	0.0	-0.3%
	Inner	12.6	0.0	-0.1%
	Outer	11.8	0.0	0.0%
	London-wide	12.2	0.0	0.0%

Table D9: Population weighted mean of days when predicted daily averaged PM$_{10}$ is greater than 50 μgm^{-3} by area (central/inner/outer and London-wide) in 2020 for each scenario.

Scenario	Location	Population weighted mean (days)	Difference from basecase (days)	Percentage difference from basecase
Basecase	Central	7.3	-	-
	Inner	3.8	-	-
	Outer	2.0	-	-
	London-wide	2.8	-	-
ULEZ	Central	6.8	-0.4	-6.1%
	Inner	3.7	-0.1	-2.2%
	Outer	1.9	0.0	-0.9%
	London-wide	2.7	-0.05	-1.9%

Table D10: Population weighted mean of days when predicted daily averaged PM$_{10}$ is greater than 50 μgm^{-3} by area (central/inner/outer and London-wide) in 2025 for each scenario.

Scenario	Location	Population weighted mean (days)	Difference from basecase (days)	Percentage difference from basecase
Basecase	Central	6.1	-	-
	Inner	2.5	-	-
	Outer	0.7	-	-
	London-wide	1.5	-	-
ULEZ	Central	6.0	-0.1	-2.2%
	Inner	2.5	0.0	-0.7%
	Outer	0.7	0.0	-0.3%
	London-wide	1.5	0.0	-0.7%

The plots below show the impact of the ULEZ scenario on the population weighted mean annual mean NO$_2$ concentrations by borough.