

Air Quality Damage Cost Responses**Introduction**

Correspondence from London Borough of Hillingdon regarding application reference 39439/APP/2021/2230 for the proposed extension to the store to provide a new groceries online (GOL) facility with new service yard and non-food retail floorspace with ancillary warehousing were received 15th July 2021.

The correspondence did not provide an objection, however, observations and proposed conditions included.

LBH Comment 1***“DAMAGE COST AND MITIGATION MEASURES***

The level of mitigation required associated with the operation phase of the proposed development is calculated using Defra's Damage Cost Approach.

The total level of mitigation required to the proposed development is £19,573. The mitigation measures proposed were evaluated in terms of likely emission reductions onto local air quality. Wherever quantifiable, these are calculated and subtracted from the overall value due. When no quantification is possible, a flat rate discount is applied.

Once all deductions were applied, the remaining value of mitigation due is £16,637. Flat rate deductions applied are as follow: Travel Plan 10% (this is assuming Sainsbury retains one) and Green Measures (5%) as click and collect may reduce attraction to the shop itself.

Therefore, a section 106 agreement with the LAP of a maximum £16,637 is recommended to be paid for Hillingdon to deliver its air quality local action plan and or implement specific measures on/along the road network affected by the proposal that reduce vehicle emissions and or reduce human exposure to pollution levels.”

Tetra Tech Response 1

The Damage Cost calculation provided by the London Borough of Hillingdon has provided a value of £19,573, prior to the application of relevant deduction. This calculated fee has used the Defra Damage Cost Calculator in combination with Defra's Emissions Factor Toolkit (EFT), using a daily vehicle trip rate of 86. It is unclear where this figure has been calculated from as the Transport Assessment (dated May 2021) produced by Mayer Brown states a daily increase of 48 trips associated with the proposed development.

It should be noted that the assessment of 48 additional vehicle trips on the network is determined to be a worst case assessment. This is outlined within the Transport Assessment (dated May 2021) produced by Mayer Brown where it is predicted that *“The increase in GOL vans could result in a daily reduction of 456 car trips to the store, based on each additional van making three trips per day with an average of 9.5 deliveries per trip. This would equate to customer journey savings of approximately 1,800 miles (2,896km) per day.”*

Tetra Tech, have therefore, produced an updated Damage Cost Calculation using Defra's Damage Cost

Approach where a worst case assumption of vehicles movements has been assessed (Scenario A) and two additional scenarios where an increase of 23 vehicles and 12 vehicles are applied (Scenarios B and C respectively).

Scenario A

EFT Input:

- 46 Vehicles
- 0 HGVs (0.00% HGV)
- 50 kph
- 10 km (NTS UK avg.)

A Baseline Year of 2019 for 'London Outer' has been used within this assessment.

Table 1 and **Table 2** below shows how the total damage cost calculations have been calculated.

Table 1. Scenario A Annual Emissions Factor Outputs (g/tonnes/year)

Pollutant	Year									
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
NO _x	0.043	0.039	0.035	0.031	0.029	0.026	0.024	0.022	0.020	0.020
PM _{2.5}	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003

Table 2. Scenario A Central Damage Costs (£)

Pollutant	Year									
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
NO _x	£1,367	£1,216	£1,072	£948	£860	£781	£706	£638	£577	£569
PM _{2.5}	£842	£810	£784	£757	£738	£720	£703	£691	£680	£670

Total NO _x	=	£8,732
Total PM _{2.5}	=	£7,395
Total Damage Costs	=	£16,127
Hillingdon Discount	=	- £4.032
Excess Damage (Potential Section 106 Contribution)	=	£12,095

Scenario B

EFT Input:

- 23 Vehicles
- 0 HGVs (0.00% HGV)

- 50 kph
- 10 km (NTS UK avg.)

A Baseline Year of 2019 for 'London Outer' has been used within this assessment.

Table 3 and **Table 4** below shows how the total damage cost calculations have been calculated.

Table 3. Scenario A Annual Emissions Factor Outputs (g/tonnes/year)

Pollutant	Year									
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
NO _x	0.021	0.019	0.017	0.015	0.014	0.013	0.012	0.011	0.010	0.010
PM _{2.5}	0.002	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001

Table 4. Scenario A Central Damage Costs (£)

Pollutant	Year									
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
NO _x	£655	£582	£514	£454	£412	£374	£338	£306	£276	£272
PM _{2.5}	£404	£388	£376	£363	£354	£345	£337	£331	£326	£321

Total NO _x	=	£4,184
Total PM _{2.5}	=	£3,543
Total Damage Costs	=	£7,727
Hillingdon Discount	=	- £1,932
Excess Damage (Potential Section 106 Contribution)	=	£5,796

Scenario C

EFT Input:

- 12 Vehicles
- 0 HGVs (0.00% HGV)
- 50 kph
- 10 km (NTS UK avg.)

A Baseline Year of 2019 for 'London Outer' has been used within this assessment.

Table 5 and **Table 6** below shows how the total damage cost calculations have been calculated.

Table 5. Scenario A Annual Emissions Factor Outputs (g/tonnes/year)

Pollutant	Year									
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
NO _x	0.010	0.009	0.008	0.007	0.007	0.006	0.006	0.005	0.005	0.005
PM _{2.5}	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001

Table 6. Scenario A Central Damage Costs (£)

Pollutant	Year									
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
NO _x	£327	£291	£257	£227	£206	£187	£169	£153	£138	£136
PM _{2.5}	£202	£194	£188	£181	£177	£172	£168	£166	£163	£161

Total NO _x	=	£2,092
Total PM _{2.5}	=	£1,772
Total Damage Costs	=	£3,864
Hillingdon Discount	=	- £966
Excess Damage (Potential Section 106 Contribution)	=	£2,898

Therefore, despite the expected overall reduction in trips as a result of increased GOL capacity, even if the damage cost was to be considered as an appropriate method for 'mitigating' against this expected reduction in emission, a more appropriate value to be used would be £6K from scenario B or £3K from scenario C.

Proposed Conditions

We have been asked to comment on the following 2 conditions proposed by LBH.

Condition 1: Air Quality - Low Emission Strategy

"No development shall commence until a low emission strategy (LES) has been submitted to and approved in writing by the Local Planning Authority. The LES shall address:

- 1) the supply of energy to the proposed development to conform with the London Ultra Low NO_x requirements;*
- 2) an electric vehicle fast charging bay. This is to be implemented as part of the proposal with a minimum of the number of charging points required in the London Plan.*
- 3) a clear and effective strategy to encourage staff / users to*
 - a) use public transport;*

- b) cycle / walk to work where practicable;
- c) enter car share schemes;
- d) purchase and drive to work zero emission vehicles.

The measures in the agreed scheme shall be maintained throughout the life of the development."

Tetra Tech Response to Condition 1

This is acceptable and achievable.

Condition 2: Reducing Emissions from Demolition and Construction

"A No development shall commence until a Plan has been submitted to, and approved in writing by, the LPA. This must demonstrate compliance (drawn up accordance with) the GLA Control of Dust and Emissions from Construction and Demolition SPG (or any successor document)."

"B All Non-Road Mobile Machinery (NRMM) of net power of 37kW and up to and including 560kW used during the course of the demolition, site preparation and construction phases shall comply with the emission standards set out in chapter 7 of the GLA's supplementary planning guidance "Control of Dust and Emissions During Construction and Demolition" dated July 2014 (SPG), or subsequent guidance. Unless it complies with the standards set out in the SPG, no NRMM shall be on site, at any time, whether in use or not, without the prior written consent of the local planning authority. The developer shall keep an up to date list of all NRMM used during the demolition, site preparation and construction phases of the development on the online register at <https://nrmm.london/>."

Tetra Tech Response to Condition 2

This is acceptable and achievable.

End of Document

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