

Growing Baldock

Environmental Statement Volume 2: Figures & Appendices

Chapter 6: Air Quality

Appendix 6.5 Damage Cost Calculations

APPENDIX 6.5: DAMAGE COST CALCULATIONS

- 1.1.1 The North Hertfordshire District Council Air Quality Planning Guidance requires developments to estimate the associated health damage cost.

Emissions Calculation for Development Traffic

- 1.1.2 Emissions of NO_x and PM_{2.5} (in tonnes per annum) have been estimated for five years of scheme operation. Defra's 'Damage Cost Appraisal Toolkit' has been used to calculate the total of any damage costs.

Results of Emissions Calculations for Development Traffic

- 1.1.3 The traffic data provided by ITP and used within the damage cost calculations for the with and without school scenario are shown below in Table 6.5.1.

Table 6.5. 1 Traffic Flows

Scenario	LDVs	HDV
Without School	12701	306
With School	13812	306

- 1.1.4 The average speed for a 10km trip has been assumed as 50km/hr in line with the guidance document. The emissions for the year of the operation of the site have been calculated using the 'Defra Emissions Factor Toolkit (Version 13.1)'. the results of the Damage Cost Calculations are provided in Table 6.5. 2.

Table 6.5. 2 Monetised Emissions

	Pollutant	Emissions (Tonne/year)	Output from Damage cost appraisal toolkit for one year (£)	Total Health Damage Value for 5 years (£)
		2040		
Without School	NO _x	1.533	£20,310	£101,550
	PM _{2.5}	0.776	£72,337	£361,686
Total				£463,236
With School	NO _x	1.627	£21,548	£107,740
	PM _{2.5}	0.839	£78,222	£391,110
Total				£498,850

Operational Mitigation Measures

- 1.1.5 The NHDC Air Quality Planning Guidance suggests the following mitigation measures to be considered for residential developments:

Support measures to reduce the need to travel:

- Alternative working practices – flexitime, teleworking, homeworking, videoconferencing
- Local sourcing of staff, products and raw materials
- Development and use of hub distribution centres employing low emission deliveries
- Provision of discounted on-site shopping, eating, child-care, banking facilities

Support measures to reduce polluting motorised vehicle use:

- Travel Plan including agreed mechanisms for discouraging high emission vehicle use and encouraging modal shift (i.e. public transport, cycling and walking) as well as the uptake of low emission fuels and technologies
- 1 charging point per unit (dwelling with dedicated parking) or 1 charging point per 10 spaces (unallocated parking)
- Development of car clubs and car sharing with financial incentives and promotion
- Use of pooled low emission vehicles – cars, vans, taxis, bicycles
- Support smart driving training schemes
- Provision of dedicated low emission shuttle bus including managed pick-up and drop-off
- Contribution to low emission vehicle refuelling infrastructure
- Contribution to site low emission waste collection services
- Incentives for the take-up of low emission vehicle technologies and fuels

Measures to support improved public transport:

- Provision of new or enhanced public transport services to the site
- Shuttle services to public transport interchange, rail station or park and ride facilities
- Support improving information systems for public transport
- Promoting low emission bus service provision

Further measures to promote walking and cycling:

- Improve district walking & cycling networks including lighting, shelters, info points & timetables
- Support cycle training and awareness schemes & bike hiring schemes
- Support secure and safe cycle parking facilities

Measure to promote sustainable travel plans:

- Support local travel to school and school travel plans initiatives
- Marketing aimed at persuading a switch to sustainable modes with incentives
- Promotion of subsidised/sponsored travel plan measures through social and other media
- Supporting community/local organisation groups to promote sustainable travel

Support air quality monitoring programmes

- 1.1.6 Mitigation options will be discussed during the course of the application. However, Table 6.5.2 below provides a summary of the potential measures proposed as part of the development. The estimated cost of these mitigation measures far exceeds the calculated damage costs e.g. the cost of new pedestrian/cycle links within the site is c.£5M. Further information on the specific mitigation measures and their associated costs can be provided post OPA submission, if required.

Table 6.5.2: Potential Mitigation Measures and approximate costs

Mitigation measures	Proposed Measure
EV recharging infrastructure within the development (wall mounted or free standing in-garage or off-street points).	Active /passive EV charging to houses with designated parking space.
Support measures to reduce the need to travel	Homes will be designed to provide space for home working
	Policies will be introduced encouraging local hiring practices.
Support measures to reduce polluting motorised vehicle use	Car club delivered and promoted throughout the site.
	Low emission shuttle bus
Measures to support improved public transport	Provision of access to Baldock Train Station from the north.
Measures to promote walking and cycling	New pedestrian / cycle links and connections
	Support for local travel to school and school travel plan initiatives
	Marketing aimed at persuading a switch to sustainable modes of transport will be included in welcome pack to new houses and in regular newsletters