
Ansty Garden Community

Environmental Statement

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APPENDIX H: CLIMATE CHANGE MITIGATION AND ADAPTATION

Appendix H: Climate Change Mitigation and Adaptation

Traffic Data CO₂ Emissions

- H.1.1 The Annual Average Daily Traffic (AADT), the percentage of heavy-duty vehicles (%HDVs) and vehicle speeds for the local roads of interest were obtained from the Transport Consultants for the project. Vehicle speeds were based on the speed limits on each road link. **Table H.1** and **Table H.2** summarise the information used within the climate change mitigation and adaptation assessment (AADT and %HDVs).
- H.1.2 The Department for Environment, Food and Rural Affairs' (Defra's) emissions factors toolkit was used to determine the emissions of CO₂ from construction and operational traffic along the affected links. Rural (not London) settings were selected, with an assumed link length of 8.1 km (with reference to the 'Emissions Factors Toolkit v11.0 User Guide').
- H.1.3 The tool calculation for this is outlined in **Figure H.1** below.

Table H.1: CO₂ (kg) Resulting from Construction Traffic through Construction Phase

Road Type	Traffic Flow	%HDV	Speed (kph)	Tonnes/yr CO ₂
Rural (not London)	50	25	32	54.84

Table H.2: CO₂ (kg) Resulting from Traffic through the Operation Phase

Road Type	Traffic Flow	%HDV	Speed (kph)	Tonnes/yr CO ₂
Rural (not London)	4256	2.1	32	2,125.54

Figure H.1: CO₂ EFT Calculation

CO₂ TRL/DfT

$$\text{Vehicle Type} \times \text{Emissions} \times \text{Constants} \times \text{Fuel} \times \text{Euro Composition} \times \text{Road Type} = \text{g/km}$$

$$\text{Vehicle Type} \times \text{Emissions} \times \text{Constants} \times \text{Fuel} \times \text{Euro Composition} \times \text{Road Type} / (3600 \times \text{hours}) = \text{g/km/s}$$

$$\text{Vehicle Type} \times \text{Emissions} \times \text{Constants} \times \text{Fuel} \times \text{Euro Composition} \times \text{Road Type} / (3600 \times \text{hours}) \times \text{link length (km)} \times (3600 \times 8760) / 1,000,000 = \text{tonnes/year}$$