

Comparison of Mass Emissions from Euro 4, 5 and 6

Modelling with EFT v7.0

A number of model runs were undertaken using EFT v7.0, to compare relative emissions different vehicle types.

Base conditions were:

- Area: England (Not London); Year: 2016; Traffic format: Alt technologies
- Road Type: Urban (not London)
- Traffic Flow: 1000
- Speed: 48 kph
- No hours: 24
- Link length: 1 km
- Fleet split 100% on different model runs for each vehicle type.
- Euro options modified to 100% on different model runs for each vehicle type.

The results are presented in the charts overleaf, and summarised below:

- Diesel cars emit significantly more NO_x than petrol cars. A Euro 6 diesel emits almost four times that of a Euro 4 petrol.
- Euro 4 diesel cars emit almost twice as much PM₁₀ as Euro 5 or 6 diesels.
- There is little difference in PM₁₀ emissions between Euro 4/5/6 petrol, and Euro 5/6 diesel cars.
- Euro 4 and 5 HGVs emit significantly more NO_x than Euro 6 HGVs (ten times more).

Modelling using CURED

The Calculator Using Realistic Emissions for Diesels (CURED) has been produced by Air Quality Consultants Ltd. (AQC) to provide a reasonable worst-case set of emission factors for modelling. The CURED emission factors take account of recent real-world emissions test data.

A comparison of the model outputs for CURED and EFTv7.0 is presented below.

Base conditions for both models were:

- Area: England (Not London); Year: 2016; Traffic format: Detailed Split 3
- Road Type: Urban (not London)
- Traffic Flow: 1000
- Speed: 48 kph
- No hours: 24
- Link length: 1 km
- Euro composition - as EFT default

The CURED model provides higher emission factors for each vehicle type. Emission assessment data could be scaled up by these amounts to take account of the work. (Euro split is not provided by CURED.)

Vehicle Type	NO _x (g/km/s)		% Diff
	EFT(v7.0)	CURED	
Petrol Car	0.001	0.001	7%
Diesel Car	0.005	0.006	12%
LGV	0.007	0.009	32%
Rigid HGV	0.023	0.036	55%
Artic HGV	0.021	0.045	115%

