

INFO NOTE

SHEFFIELD AND ROTHERHAM CLEAN AIR ZONES

20% HEARTS AND MINDS

IDENTIFICATION TABLE

Project	Sheffield and Rotherham Clean Air Zones
Title of Document	20% Hearts and Minds
Type of Document	Info Note
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1.1 Introduction

- 1.1.1 This note describes why we have assumed that achieving a 20% switch from Diesel Car to Petrol Car by 2021 is attainable as part of a Hearts and Minds campaign to help achieve Air Quality compliance as part of the proposed CAZ scheme in Sheffield and Rotherham¹.
- 1.1.2 The note starts by describing the differences in the fleet projections contained in the latest DEFRA Emission Factor Toolkit (EFT), which has been used (as required) in the main modelling work as part of the feasibility study, with recent trends as observed by the DfT.
- 1.1.3 The note concludes with a description of possible outcomes by 2021 and the risks to achieving the level of fuel type switching required as output by the Hearts and Minds campaign.

1.2 EFT Versus DfT Statistics

- 1.2.1 Figure 1 below shows the diesel / petrol car split in 2017 as derived from local ANPR data in Sheffield and Rotherham (this is covered in more detail in T4) and then with forecasts applied in line with the EFT (non-London urban fleet). This shows that diesel car continues to increase as a proportion of the car mix up until 2020/2021 at which point it reaches parity with petrol cars before dropping away in the direct comparison. *Note: this chart just shows petrol and diesel so does not add to 100%, as over this time frame other technologies enter the car fleet mix (eg electric) but not very quickly.*
- 1.2.2 However, Figure 2, which uses data from the DfT about vehicle registrations in the UK shows that the meeting of the petrol and diesel lines has already occurred and that by 2017 these lines are already diverging. Meaning that petrol is already increasing in the car fuel mix at the expense of diesel. An effect that EFT predicts will not happen until the early 2020's.

¹ 20% switch in Sheffield required and 10% in Rotherham

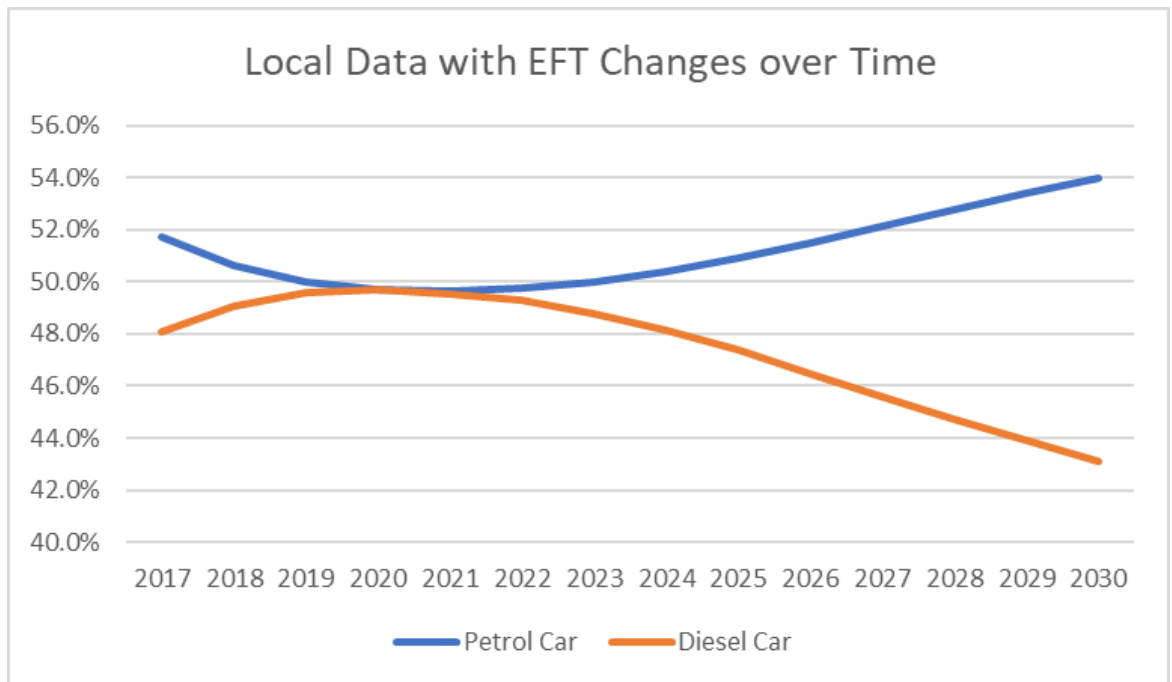


Figure 1 – Local ANPR Data with time based trends from EFT applied

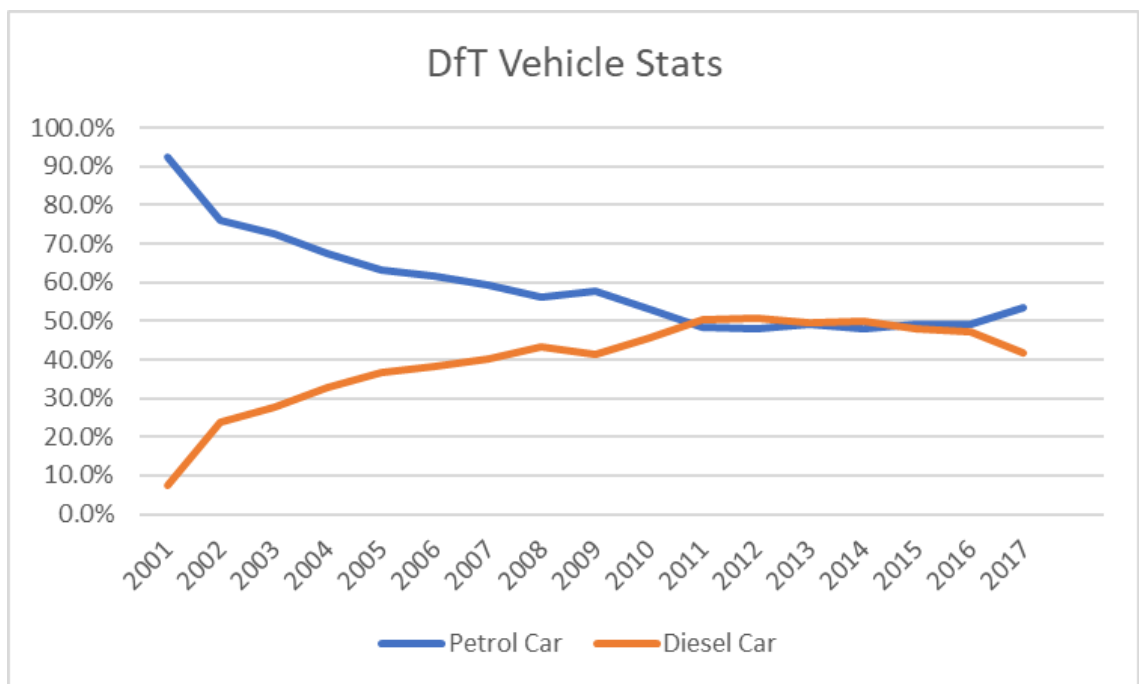


Figure 2 – Time series petrol / diesel car splits – 2001 to Modelled Base Year (2017) – DfT Actual

1.2.3 Even more pronounced is the DfT data showing new vehicle registrations, which shows a significant recent trend to petrol cars and a reduction in diesel registrations. This can be seen in Figure 3, which shows that in 2017 nationally diesel car registrations were down to around 32% of all new sales, from a high point of just over 50%, representing a drop of around 36% in the total number of new diesels sold (if the total sales remained relatively constant over this period).

1.2.4 This scale of change will quickly start to affect the proportion of diesel in the total fleet.

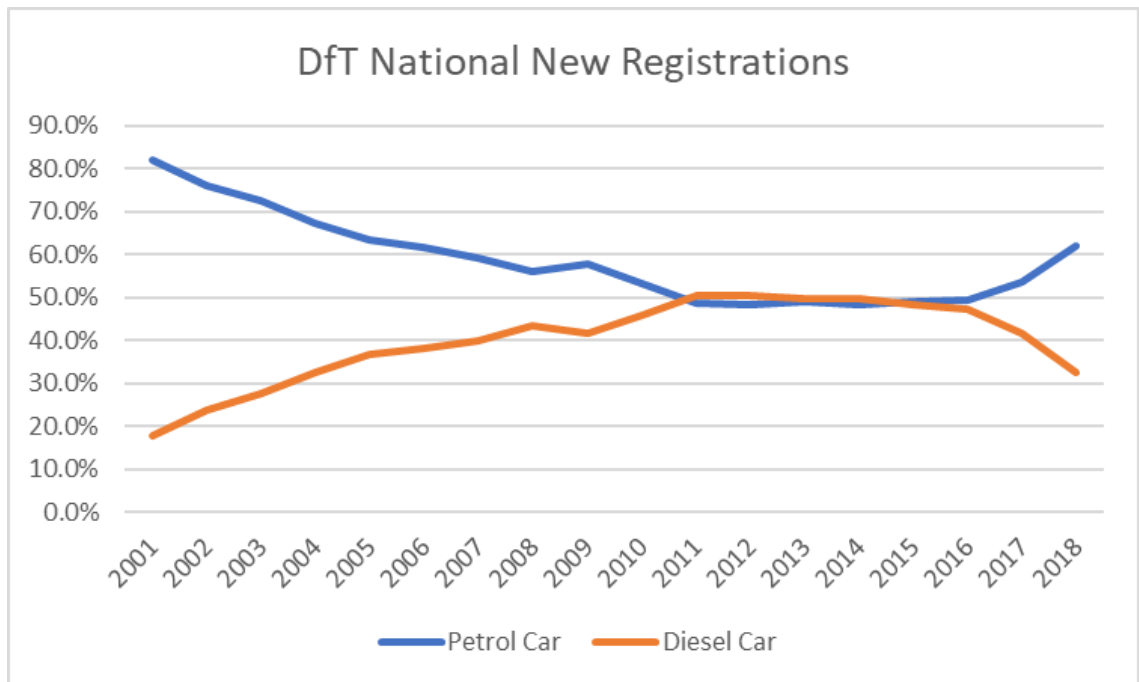


Figure 3 – Time series petrol / diesel car new vehicle registrations – 2001 to 2017 – DFT Actual

1.2.5 If the recent trends as demonstrated in Figure 2 are extrapolated forward (based on a very conservative methodology) the trends seen in Figure 4 may be expected. These have been compared with the EFT forecasts as included in the modelling in order to demonstrate the difference in these trends.

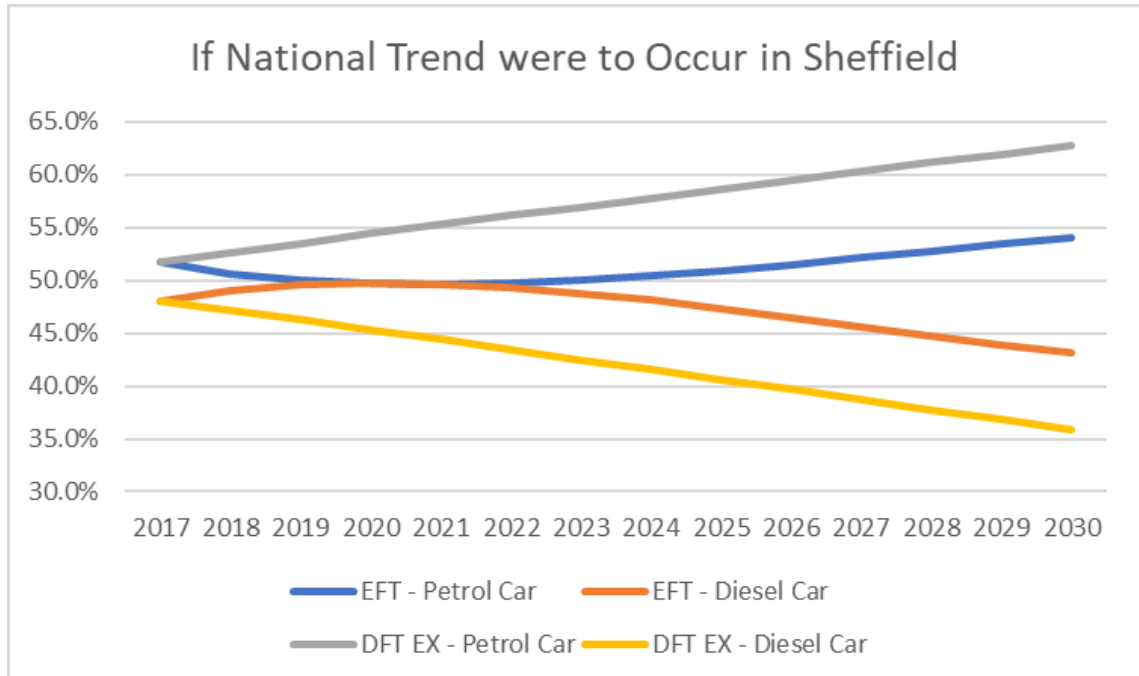


Figure 4 – Time series petrol / diesel car new vehicle registrations – 2001 to 2017 – DFT Actual

1.2.6 Whilst the recent actual data may be pointing to a short-term anomaly in sales and the diesel / petrol split it does appear that peak diesel car which is not predicted in EFT until 2020 / 21 has already been reached and that as a proportion of the fleet diesel cars are already reducing.

1.2.7 If this is true this would mean that the modelling that has been undertaken on the Sheffield and Rotherham CAZ scheme represent a very conservative / pessimistic view of the future regional fleet. This is important from the point of the scheme, since diesel emits significantly more NOx than petrol cars and that therefore the reality may be that the 2021 Business as Usual emission situation may be a lot better than expected.

1.3 Achieving 20% Hearts and Minds Switch

1.3.1 Assuming the EFT is conservative in its forecast fleet assumptions of the petrol/diesel split of private cars, then this means that to achieve a 20% swing from (EFT) diesel car to petrol car via a targeted Hearths & Minds campaign will be a lot easier than in sounds.

1.3.2 Figure 5 below shows the change in Petrol and Diesel car proportions from 2017 to 2021 using the EFT forecast method (first pair of columns) compared to the conservative extrapolation forward the DFT time series (second pair of columns). The difference between these methods is shown in the third pair of columns which suggests a 10.8% (5.6%+5.2%) shift to petrol car by 2021 compared to the modelling. That would mean that only another 9.2% shift to petrol from diesel for trips into central Sheffield because of a targeted local Hearts and Minds campaign will be required (final pair of columns).

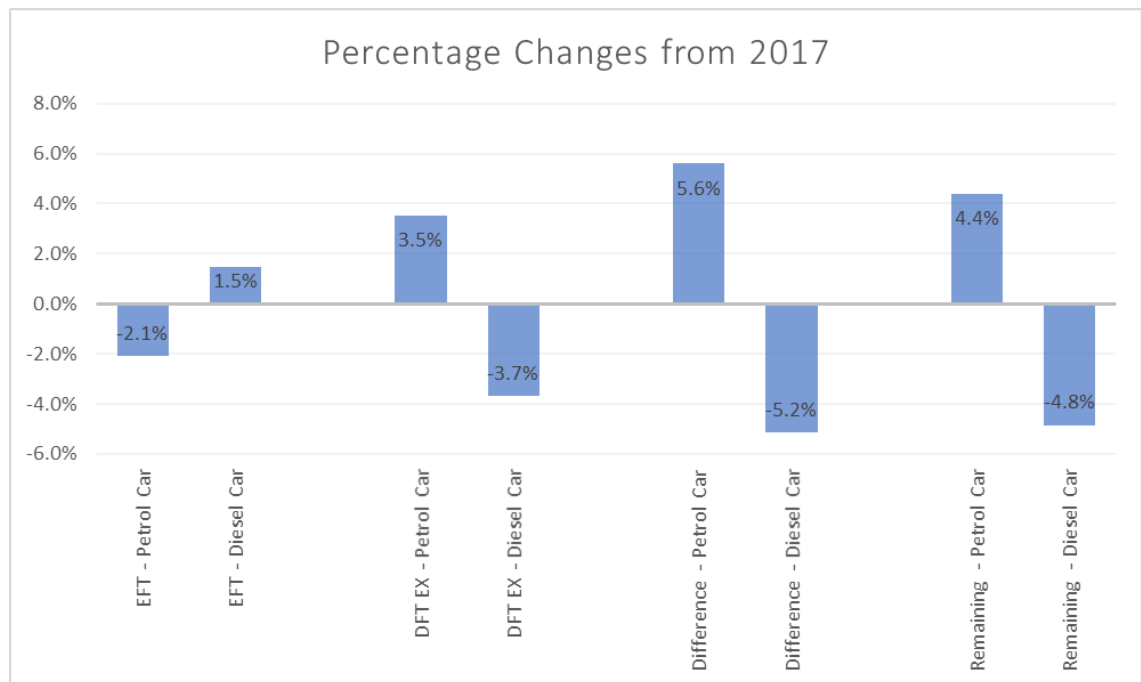


Figure 5 – Changes in Petrol and Car Proportions from 2017 to 201

1.3.3 Further still, it would mean the 10% shift from diesel to petrol assumed in Rotherham will be achieved automatically, so any local efforts to promote away from diesel in Rotherham will take us where we need to be even quicker than assumed in the modelling.

1.3.4 There is also an historic precedent for changes on this scale. Figure 2 shows that between 2009 and 2011 there was almost a 20% shift in the overall car fleet mix (not just new registrations) from petrol to diesel. During those two years, there was a 9.3% reduction in the petrol fleet proportion and an 8.8% increase in the diesel proportion (ie an overall swing of 18.1%). The reasons for that are likely to be the widespread information showing diesel being more efficient than petrol with the uptake in diesel then being further accelerated due to the economic situation and people equating efficiency with monetary savings.

- 1.3.5 It is felt that a dedicated local campaign over two years (supported by a strong national narrative) can achieve a similar end result but with a switch back to petrol. And even if it only achieves a 10% switch that along with a less pessimistic forecast than in the current EFT may be sufficient.
- 1.3.6 It is also the case that the MOT process now has stricter limits on emissions from diesel cars (as of the 20th of May 2018). This is likely to push older diesel cars out of the fleet as failures increase and scrappage costs increase.
- 1.3.7 There are however certain caveats to this, which are as follows:
- As a result of CAZ schemes in nearby cities and across the country there is likely to be a relatively large number of second hand diesel cars which come onto the market very cheaply, particularly from any cities with CAZ D schemes. These may be seen as a significant cost saving for some individuals and this may need to be monitored, although the effects of this may be offset by the stricter MOT process;
 - The effects currently been seen in the actual DFT data may simply be a 'blip'. Our professional judgement considers this to be unlikely but even if it is the impact of such a 'blip' would be to make the fleet in 2021 better than the current EFT forecasts;
 - The petrol to diesel ratio in Sheffield and Rotherham is already higher than the national fleet prediction for 2017 in EFT. This might mean that there is less scope for switching, however on the other hand it may be an indication of a greater willingness to use petrol in the area; and
 - The actual DFT figures may be being influenced to some extent by trends in London and other more prosperous areas of the UK which tend to have newer fleets than Sheffield and Rotherham. That may be mitigated in the data by a lower than average car ownership in places like London. It still leaves the fact that the DFT actuals are a national data set and it may not be fully representative of what is happening in Sheffield and Rotherham.
- 1.3.8 Whilst all of the above issues need to be considered, overall, we (SYSTRA) believe that a likely continued switch away from diesel is likely and that it will therefore be relatively easy to achieve the required reduction in the proportion of diesel in the car fleet in central Sheffield by mid-2021, if an appropriate level of resource is devoted to the relevant local and national Hearts & Minds campaigns.

APPROVAL					
Version	Name		Position	Date	Modifications
1	Author	Chris Robinson	Associate	07/12/2018	V1 – Initial Release
	Checked by	David Connolly	Director	20/12/2018	
	Approved by	Julie Meese	SCC	20/12/2018	