

Technical Note (November 2011)

Concessionary Travel Reimbursement Guidance

Marginal Capacity Cost – Revisions to Vehicle Mile Unit Cost Estimate for 2012/13

Introduction

1. In November 2010 the Department for Transport (DfT) published guidance on reimbursing bus operators for carrying concessionary passengers for schemes commencing on or after 1st April 2011 (thereafter referred to as the 2011/12 reimbursement guidance).
2. The reimbursement guidance advised that bus operators should be reimbursed for any net additional costs that they have incurred as a result of the scheme. The reimbursement guidance suggested four categories of additional cost of which one category was marginal capacity costs (MCC).
3. Marginal capacity costs are defined as the costs to a bus operator of carrying an additional passenger and allowing the capacity of bus services to increase, by using the existing bus fleet more intensively to provide that additional capacity through increased frequency.
4. The 2011/12 reimbursement guidance recommended a value for the vehicle mile unit cost – i.e. the cost associated with an additional mile that a bus operates – of £0.61 on average in England (at 2009/10 prices). This value contributes to the overall estimation of marginal capacity costs.
5. This note explains the change to the recommended value for the vehicle mile unit cost in the reimbursement guidance that will apply for schemes commencing on or after 1st April 2012 (in 2012/13 guidance). The change reflects the reduction in Bus Service Operator Grant (BSOG) in April 2012¹.

¹ The contents of this technical note represents the considered views of the Department alone.

Fuel Cost

6. One of the components of the recommended vehicle mile unit cost is the cost of fuel. Every additional mile that a bus operators leads to an increase in the consumption of fuel. The 2011/12 reimbursement guidance recommended a vehicle mile unit cost of £0.61 of which £0.49 was the cost of fuel per vehicle mile.
7. In 2012/13 the BSOG rate is to be reduced by twenty percent. The fuel cost element of the vehicle mile unit cost should therefore be revised to reflect that, with a lower BSOG rate, the fuel cost per vehicle kilometre incurred by bus operators will be higher. This revision to the fuel cost element increases the fuel cost element of the vehicle mile unit cost from £0.49 to £0.57 per vehicle mile (at 2009/10 prices). The calculation for this estimate is presented in Annex A.

Vehicle Mile Unit Cost – 2012/13 Recommended Figure

8. Taking into account the revision to the fuel cost element of the vehicle mile unit cost to reflect the reduction in BSOG from April 2012 implies a recommended vehicle mile unit cost figure in the 2012/13 reimbursement guidance of **£0.70** (at 2009/10 prices)².

² Vehicle mile unit cost (2012/13) = vehicle mile cost unit (2011/12) – fuel cost per vehicle mile (2011/12) + fuel cost per vehicle mile (2012/13) = (£0.61 - £0.49) + £0.57 = £0.70

Annex A – Fuel Cost per Vehicle Miles

A.1 In this annex we present the steps for calculating the fuel cost component of the vehicle mile unit cost for use in the marginal capacity cost model in the 2012/13 reimbursement guidance³. The calculations are based on an average for England in the year 2009/10 and all figures are in 2009/10 prices.

Step 1: Fuel Cost per additional vehicle mile⁴

- Fuel and tyre cost per vehicle mile is £0.53
- Proportion of fuel and tyre costs that represent tyre costs only is 8%
- Fuel cost per vehicle mile is $£0.53 \times (1 - 8\%) = £0.4876$

Step 2: Diesel Price per Litre

- The price of diesel per litre is £0.364 excluding tax and duty
- The fuel duty rate per litre is £0.5619
- The BSOG rate per litre is £0.4321
- Therefore the purchase price of diesel per litre for a bus operator on average is $£0.364 + £0.5619 - £0.4321 = £0.494$.

Step 3: Fuel Cost per additional vehicle mile

- Fuel cost per additional vehicle mile = Diesel price per litre * fuel consumption rate per additional vehicle mile
- $£0.4876 = £0.494 \times \text{fuel consumption rate per additional vehicle km}$
- Fuel consumption rate per additional vehicle mile = $(£0.4876 / £0.494)$

Step 4: Reduction in BSOG

- The BSOG rate is reduced by 20% $\rightarrow £0.4321 \times (1 - 20\%) = £0.3457$
- Therefore the purchase price of diesel per litre is $£0.364 + £0.5619 - £0.3457 = £0.580$

³ The 2012/13 reimbursement guidance applies to schemes commencing on or after 1st April 2012.

⁴ The fuel and tyre cost per vehicle mile assumption is based on responses to the consultation on the draft 2011/12 reimbursement guidance from two bus operators. The assumption on the proportion of this cost that represents tyre costs only is based on the Institute for Transport Studies Research Report.

Step 5: Fuel Cost per additional vehicle mile (with BSOG adjustment)

- Fuel consumption rate per additional vehicle mile = ($\pounds 0.4876 / \pounds 0.494$)
- Fuel cost per additional vehicle mile = Diesel price per litre * fuel consumption rate per additional vehicle mile = $\pounds 0.580 * (\pounds 0.4876 / \pounds 0.494) = \pounds 0.57$

References

Department for Transport (2010) "Concessionary travel for older and disabled people: guidance on reimbursing bus operators (England)"

This document reference is to the Department for Transport's Reimbursement Guidance published in November 2010 which applies to schemes commencing on or after 1st April 2011. Revised 2012/13 guidance, published in November 2011, applies to schemes commencing on or after 1st April 2012.

Dargay, J., Lui, Ronghui., Mackie, P., Nelthorpe, J., Shires, J., Smith, A., Toner, J. and Wheat, P (2010) "Concessionary Travel – the Research Papers" Institute for Transport Studies, University of Leeds

This document reference is to the report published in 2010 by the Institute for Transport Studies (ITS) which informed the publication of the Department for Transport reimbursement guidance. This includes the recommended value for the vehicle mile unit cost (element of the marginal capacity cost model) used in the 2011/12 reimbursement guidance. These figures can be found in Chapter 10 of the ITS report (Costs).