

# PUBLIC HEALTH ENGLAND

## Calculating the carbon impact from travel expenses data

Public Health England (PHE) was formed on April 1st 2013, and is an Executive Agency of the Department of Health. The agency was made up of 12 sender bodies, the largest of which was the former Health Protection Agency. PHE has staff in over a 100 locations across England with a few others represented in Wales and Scotland, with over 5000 members of staff.

Trying to reduce the amount of travelling on business is seen as a priority by PHE's senior management, not only because of the financial impact but also the environmental and social impacts. In line with our Travel Policy we have put a number of measures in place to help reduce the amount of travelling members of staff have to undertake, these include for example enabling Video and Teleconferencing facilities on their laptops. Communication on the impact of travel has also been seen as a priority with a number of seminars and conferences being used to highlight the impacts of travelling unnecessarily.

### THE PROBLEM

As part of our reporting for the Green Government Commitment (GGC) we are obliged to monitor, measure and report on our staff travel, in all its main forms.

When drawing together the data for reporting on the amount of travel that PHE staff undertook for the quarterly GGC report we noticed that there was no mechanism in place, or available through other government departments, to calculate the amount of mileage our staff were undertaking claimed through i-expenses.

PHE spends a lot of money on travel undertaken by their staff, claimed through the expenses method. The problem occurred when we realised that there was no mechanism in place to calculate the carbon emissions from the journeys that our staff were undertaking on business, where the only initial data is the amount of money the staff member claims back, for a particular mode of travel e.g. taxi, underground, bus etc.

Appendix A - Snapshot of the travel calculator.

As an example, a person travels by taxi to the train station, travels by train to their destination (in this case London) and then takes the underground to our head office. When they put their expense claim in they do not know how many miles they have travelled by taxi and underground so claim back the money that they paid for the journey.

Having identified the vast amounts of money being claimed for their journeys, the problem came to try and calculate the carbon emissions from each of these journeys so we could give a full picture of our environmental impact for the GGC report.

### THE SOLUTION

Having identified this shortfall we set about developing a travel calculator, utilising MS Excel that could be used to transpose the i-expenses financial data into mileage and then calculate the carbon emissions. We undertook extensive research to see if there was anything comparable that could be used to help sort out this problem, but to no avail, and wondered what the other government departments did to resolve the issue – we were told by some that they didn't report on this because there was no simple way to calculate it.

We found a number of helpful online travel websites that helped with calculating the costs of particular journeys e.g. bus, taxi and underground. On one website in particular, called World Taximeter, <http://www.worldtaximeter.com/london> you can put a number of locations into the website and it will calculate the distance and give you an estimated price of the journey; therefore by examining our data we were able to come up with a formula that calculated the distance of a particular taxi journey for the amount of money spent. Once the distance was estimated for the amount spent we then used the latest Defra Carbon factors to identify the amount of carbon emitted for the distance travelled.

The above process was also used to calculate the carbon emitted for journeys

undertaken on the London underground, train, bus and coach but using various comparison websites.

Trying this calculator into the i-expenses pivot table, for specific modes of travel, allowed us to give an estimated travel carbon footprint for the amount spent.

### CAVEATS

Clearly, there must be some note of caution when using this methodology. We have tried to be as accurate as possible with the cost to distance calculation which in essence is the main thrust of this calculator. We have also tried to cross check my calculations where at all possible but clearly not every taxi journey, for instance, is going to be exactly a set distance for a set price so there should be some acknowledgement that this calculator uses the best available data for its comparisons and calculations.

### BENEFITS

Having developed this calculator, it has allowed PHE to report on over £200,000 pounds worth of travel, which is reportable for the GGC, which would not normally be calculated. If this calculator was not built there was no other method that could be used to calculate the amount of carbon emitted and would therefore be lost – or not reported altogether. Something that we think is possibly going on across government departments.

The collation and interrogation of this data has allowed PHE to put a number of initiatives in place to reduce the amount of travel being undertaken by its staff, which would, in a lot of cases, not have been identified before. Besides the usual call to utilise more video or tele-conferencing by our staff it has allowed site management teams to focus on the amount of journeys being undertaken by staff and fits nicely with our Travel policy and management arrangements.

### CONCLUSION

In conclusion, the travel calculator has been given informally to a number of other government departments to trial; with a number of my colleagues in other ALB's to the Department of Health having utilised this tool.

We would like to see it develop so that the 'grey area' of expense claims for travel, where only financial data is available, can be calculated so a fuller picture of the impacts of business travel in the public sector can be explored and reported fully.

		Average		Distance (Miles)	CO2 Emissions kg/unit
		Cost (£)	Cost (£/km)		
Rail - national rail	Passenger km	0.48	0	0	0.00
Rail - Eurostar and non EU	Passenger km	0.40	0	0	0.00
Rail - light rail	Passenger km	0.40	0	0	0.00
Rail - London underground	Passenger km	0.37	0	0	0.00
Bus - Average*	Passenger km	0.40	0	0	0.00
Taxi UK**	Passenger km	0.45	0	0	0.00
Taxi EU and non-EU**	Passenger km	0.64	0	0	0.00
<b>Total</b>		<b>£0.00</b>		<b>0</b>	