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March 2012

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(Price £30, code 2X)

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Summary **March 2012**

Published Project Report PPR591

The emission impacts of car clubs in London

S Cairns, C Harmer

Pages: 52, ISBN: 978-1-908855-01-05

Car clubs – a form of neighbourhood car rental – offer an alternative to private car ownership. This report describes new analysis of the 2010/11 annual survey of car club users conducted by Carplus, in order to understand the potential emission impacts of car clubs in London. The analysis shows that, on average, members of car clubs report substantially lower levels of household car use than the average London household with at least one full car license holder. Those who have just joined the car club are asked about their pre-joining travel behaviour, and, on average, this is also reported to involve substantially greater household car use than for established members. In addition, car club vehicles tend to be considerably newer and cleaner than the average private car. Consequently, average estimations of emissions of CO_2, NO_x and PM_{10} from car use by households with established London car club members are less than half of the equivalent emissions estimations for London households with at least one full car license holder, or for the pre-joining household car use by those who have recently joined. To establish the robustness of these results, different sub-groups of car club users were considered. This shows that, after joining, on average, there are increases in car use by non-car-owning households, and by households whose personal car ownership also increases. However, these increases are relatively small compared to the large average reductions in household car use by those who reduce their household car ownership – meaning that the overall average changes calculated seem robust. In total, about 30% of car club members report reducing their household car ownership after joining a car club, and about 30% (including a proportion of those who dispose of a car) report that they would otherwise have purchased a vehicle.

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Summary **March 2012**

Published Project Report PPR592

Smartphone use while driving: a simulator study

D Basacik, N Reed, R Robbins

Pages: 67, ISBN: 978-1-84608-995-4

Previous research has shown that use of a mobile phone while driving impairs driving performance. With 'smartphones' now becoming common in the commercial marketplace, more and more drivers are able to engage in a broad range of possible activities on their phone. This study set out to investigate whether there was an effect of social networking using a smartphone on driving performance. Twenty-eight young male and female participants took part in the study and drove a driving simulator through the same test scenario twice: once while using a smartphone to interact with a social networking site, and once without this distraction. The results of the experiment clearly show that participants' driving performance was impaired by the concurrent smartphone task, and the smartphone task was also affected by driving.

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Summary **March 2012**

Published Project Report PPR598

Review of Iterlene ACF 1000 as a bitumen regenerator for hot asphalt mixture

J C Nicholls, J M Prime

Pages: 34, ISBN: 978-1-908855-00-8

There is an increased need for, and use of, reclaimed asphalt in the production of fresh asphalt. In order to produce a mixture with the required properties, the grade and quantity of binder added to the mixture has to be adjusted to compensate for the age-hardened binder within the reclaimed asphalt. The adjustments increase as the proportion of reclaimed asphalt is increased. In order to reduce the adjustment needed and in order to increase the consistency of the final product, regenerators can be added to rejuvenate the binder. One such product is Iterlene ACF 1000, for which some test data is available. That information has been reviewed and further tests have been undertaken to assess the effectiveness of the product. It has been found that the regenerator does recover properties that have degenerated in aged bitumen for their incorporation into a new asphalt mixture.

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