Using Design with Intent to Encourage Active Travel in Mobility as a Service

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SUMMARY

Mobility as a Service (MaaS) apps have been developed in the hope of increasing sustainable travel, yet the most sustainable forms of travel; active travel, are yet to receive substantial consideration. This significant change of increasing walking and cycling requires users to have all of their information needs met. Using COM-B alongside Design With Intent users, will co-create in-app features intended to provide the assistance needed to effectively increase active travel use.

KEYWORDS

MaaS, Active Travel, DWI

Introduction

Mobility as a Service (MaaS) apps are mobile phone applications offering a 'one stop shop' which aim to enable the user to Plan, Book, Pay and Navigate journeys which could be completed using a variety of travel modes, such as public transport (such as buses and trains), micromobility (such as hired escooters, bikes or ebikes), active travel (such as walking, running or own bike use), on demand services (such as taxis), own car use and use of more traditional hire vehicles such as can or van hire schemes. By presenting all of the available options to the user the hope is that they will have the information to make more sustainable and healthy choices about how to make a journey. The ultimate aim is that MaaS will encourage behaviour change, reducing the reliance on the private car, particularly for solo, short to medium length trips (Richardson et al, 2022).

The Solent Future Transport Zone (FTZ) was one of four FTZ schemes awarded funding from the Department for Transport to fund such an MaaS app and work commenced in 2020. The project has been managed by Solent Transport, a group combining Southampton City Council, Portsmouth City Council, Hampshire County Council and Isle of Wight Council. The Human Factors Engineering Team, part of the Transportation Research Group at The University of Southampton has been commissioned to optimise the interface as part of a user-centred design process.

The importance of including active travel modes as options in MaaS is of importance in the UK government's plans for MaaS. Prior to the awarding of the FTZs the 'Future of Mobility: Urban Strategy' plan was released. It includes nine principles including that "Walking and cycling must remain the best options for short urban journeys" (p8. gov.uk 2019) further stating that "Mobility as a Service could… move people towards active and sustainable modes" (p27. gov.uk. 2019). Subsequently, the Mobility as a Service: Code of Practice was published. In it there are several suggestions for what information may help choose to use active travel such as high-quality maps, information on CO_2 savings and the associated health benefits of each trip (gov.uk 2023).

The logistical considerations involved in making all public transport providers and ticket types available in one app (particularly complicated in an area under the control of multiple local authorities and with several bus and train companies), combined with the financial benefit of public

transport, micromobility and car hire providing revenue from in-app sales, have meant that the provision of support and information relating to active travel is still yet to be realised.

Method

The COM-B Model of behaviour change has been used extensively in the fields of public policy and health. It suggests a simplified model of three factors to consider when attempting to influence behaviour change: Capability, Opportunity, and Motivation, (Michie et al, 2011). Therefore, a user in possession of all of these factors is likely to be more successful in making the desired changes (Cane et al., 2012). As Human Factors practitioners, we wish to ensure that the MaaS app can offer genuine impact to the public by addressing many of these factors when developing new features, from a user-centred perspective.

Design with Intent (DWI) is a user centred design method whereby workshops with participants from target end user groups are conducted in order to generate novel design ideas with the aim of influencing a particular behaviour (Lockton et al, 2012). During the initial design phase DWI workshops were conducted in order to generate novel ideas from members of the public for features which could be included in this new MaaS app (Kim et al., 2023).

This proved to be a useful exercise for developing prototypes and therefore it was decided that a subsequent set of DWI be conducted but to focus on active travel and with knowledge of what the app offers currently, and what competitor or complementary products are able to offer. Participants will be those who wish to either start or increase their amount of active travel and will choose to join a group for either walkers or cyclists. Participants will then design one or more in-app features which they believe would help them in their wish to use active travel. They will be encouraged to think about what knowledge they may need to possess (capability) what education or environmental needs they may require (opportunity) and what could incentivise these changes (motivation).

Results

The ideas generated from these workshops will be developed into further prototypes for delivery to the project partners, forming part of a report on design recommendations focusing on active travel, but also published with the intention that these could form part of the growing literature on MaaS.

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