IEA Triennial Congress Session proposal

Title
Motorcyclists as Vulnerable Road Users

Aim
The aim of this session is to highlight current research in the field of motorcycle ergonomics and rider human factors. The subject area is aligned to the existing Transport Ergonomics and Human Factors (TEHF) Technical Committee but due to the specific focus of this session there is potential to develop a new TC based on Vulnerable Road Users (VRUs).

Scope
In thinking about interactive transport systems, the usual focus is on a user operating their vehicle in a specific environment. More recently this approach has expanded along socio-technical principles to incorporate many users, operating their vehicles within the same shared environment. This approach allows the Human Factors community to explore issues of complexity inherent within shared spaces and road safety as well as understanding the specific and often unique requirements of different road users.

By taking a socio-technical perspective, this session will present leading research into rider behaviour, cognition and specific vulnerabilities. These will be balanced against technological developments within Intelligent Transport Systems to consider the potential for supporting these roads users and wider road safety initiatives from a systems perspective.

Relevance
In many ways this is a new and emerging area that has been prioritised within Europe with specific Horizon-2020 calls for research. At a more practical level as automotive technologies continue to develop and eventually filter down to other road users (e.g. motorcyclists) there is also the need to understand the vulnerabilities of these road users as those with and without ITS technologies will begin to share the same interaction spaces.

Schedule
The session has been designed to incorporate both contextual and research based presentations. In this way the contextual presentations will serve to provide a knowledge base and platform for understanding the specific research presentations.

The session will be organised on the following basis (assuming 20 minute presentations):

- **Presentation 1** – Dr Alex Stedmon (Coventry University, UK) - opening address – scoping Motorcycle Ergonomics, Rider Human Factors and Vulnerabilities
- **Presentation 2** – Mike Lenne (MONASH University, Australia) – specific research paper (tbc)
- **Presentation 3** – Prof Neville Stanton (Southampton University, UK) – rider cognition and situation awareness
- **Presentation 4** – Dr Paul Salmon (University of the Sunshine Coast, Australia) – specific research paper (tbc)
- **Presentation 5** – Dr Dave Moore (Auckland University of Technology, New Zealand) - summary address – drawing together the themes from the presentations and outlining potential routes forward (e.g. book proposal, journal paper).

The contributors all have established track records in road safety research, as well as editing special issues of leading Human Factors and Transportation journals (‘Applied Ergonomics’, ‘Transport Research Part F: Traffic Psychology and Behaviour’, ‘Accident Analysis and Prevention’).
Outcomes
In addition to providing a focussed session on motorcycle human factors aimed at those conducting research in the area, the format of the session is also designed to appeal to those with little prior knowledge of the area. The final presentation is designed to stimulate discussion and inclusion in further activities (see below).

Dr Stedmon and Dr Moore have secured a contract to produce a book on Motorcycle Human Factors (Ashgate) and one of the aims of this session will be to publicise this activity and invite contributions from leading researchers in this area. As such, the session will serve to publicise a special meeting that will be held outside of the session to consider the book in more detail.

A further activity from this session will be to produce a position/review paper on motorcycle human factors that will be submitted to a leading journal. In relation to the profile and priority of vulnerable road users in Europe, such a paper would serve as a key resource to researchers in this field.

As this is an emerging area it is important to address the potential for developing new TC (outside of TEHF). As systems perspectives have been evident in aviation safety for decades, one of things this initiative is keen to explore are ways of transferring systems safety thinking from other transport areas and bring it in to road safety for VRUs. The session will therefore consider the wider interest and requirement for such a TC within the IEA.