

# Parking Guidance Information System

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**Abstract** – This letter concerns the lack of knowledge in field of parking and intelligent transportation systems (ITS). This issue goes some way to addressing three gaps in knowledge, and is thus a very useful addition to and update of the existing parking literature.

**Keywords** – Parking guidance information; Advanced traveller information; Parking choice behaviour

## 1. Short Review and Highlights

This paper is a short review and highlights in field of parking and intelligent transportation systems (ITS). In undertaking work in this area over the last few years we have become increasingly aware that, whilst there are academic papers in the area, this is, an under-researched area of ITS, not the least when compared to an area such as road user choice of parking.

Parking policy can be considered one of the best tools for travel demand management (TDM) in urban areas. In literature, a review of parking models [1] identified different choice simulation models that have been proposed and replicate parking choice behaviour, including discrete choice models [2, 3] and the most used Logit type CLAMP model [4, 5], Network based models [6, 7] and traffic assignment models [8-10]. In the last years research has also been addressed their attention to users' choice behaviour modelling with information provision known as advanced traveller information system (ATIS) [11-15] or parking guidance information (PGI) [16, 18]. The ATIS system such as PGI provides drivers with information about road network status (i.e. congestion level, accidents occurring, working zones, pricing, etc.) in order to reduce the negative impact of traffic such as, for example, congestion and/or air pollution.

It is fair to say that not enough is known as to how individuals respond to both the introduction of a PGI or how ATIS system impacts on the provision of alternative parking and modes of transport, but this issue goes some way to addressing three gaps in knowledge, and is thus a very useful addition to and update of the existing parking literature.

First, a great number of researches investigate the necessity for systematic study looking at parking information needs of drivers. Meanwhile, it should be considered that drivers are not a homogenous population and are likely to require different information. Concerning trip purpose and context, it appears that, consistent with intuition, business trips

and commuter trips and arrival-time sensitive trips in general induce higher usage levels of ATISs. Hence, it is important to identify the various groups and detect their specific requirement for parking information.

Furthermore, the literature is also in agreement with the suggestion that travellers are particularly using ATISs to be informed about their favoured choice of parking. Information acquisition and perception updating appear to be an iterative process. Eventually, travel information may, through the updating of perceptions, influence a traveller's choice-behaviour. Concerning the direct effect of information on the updating of travellers' perceptions, a serious lack of empirical knowledge exists. Insights on this issue are, however, critical in order to understand fully in what ways travel information may affect a travellers's choices for parking lots and modes.

Finally, the availability of viable parking alternative information other than travel times and costs also has a positive effect on ATIS use. There is indirect empirical evidence that travellers wish to be informed not only about travel times and costs of alternatives, but also about more 'intangible' characteristics such as convenience, comfort and privacy.

From this discussion about the parking information and their effects will, therefore, gain increased knowledge of the parking policy research agenda; of parking choices; and of behavioural responses to parking charges and management by controlling the existing transportation infrastructure to reduce the travel time of vehicles.

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## Vitae

Kian Ahmadi Azari, was born in 1981. He is a PhD candidate in field of Transportation; civil engineering. His research interest includes parking policy, choice modelling, parking guidance information and congestion pricing. He has several published research and review articles in the field of traffic and parking.

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