Vehicle-Grid Integration (VGI) research may serve to limit the self-induced adverse effects of electric vehicles (EVs) in terms of additional grid loading, but also to make the EV an active asset in supporting a stable, economic power system based on renewable energy. Any use of the vehicle for grid services requires an accurate understanding of the user’s driving needs. This paper proposes the introduction of a user profile, describing the energy requirements for driving in terms of an energy deadline, target and minimum. To explore the use of such a profile, the paper analyses data from a Danish pilot project where the driving patterns of ten electric Nissan e-NV200 vans are investigated in terms of leave times and energy consumption. It is shown that the data can be fitted with a log-normal distribution that can be used to establish a per user profile which provides a certain statistical probability of fulfilling the driving needs while allowing an aggregator to optimize earnings. Initially, aggregators may apply similar driving assumptions across an entire fleet. Considering that the driving needs of individual EV owners are different, statistical representations of the individual behaviour may result in more flexibility, and thereby time, for providing grid services. The paper quantifies the value of such added flexibility based on the Danish market for frequency containment reserves.