ADVANCED TRAVEL LOGGING APPLICATION FOR SMARTPHONES
Atlas project is a major research initiative at the Transport group of the University of Queensland (UQ), Australia, aiming at facilitating sustainable transport planning and infrastructure development for a greener future. Atlas II is an intelligent application developed for smartphones (iPhones and Android phones) to assist research teams with accurate, easy and affordable means of data collection for transport planning. Currently, transport planning authorities collect people’s travel behaviour using paper, phone or web-based surveys in which, a member of each participating household completes the questionnaires on behalf of the other household members. The questionnaires often focus on the frequency, mode and purpose of the trips performed by each household member along with the origin, destination, length and duration of these trips. These data play an important role in planning sustainable transport infrastructure, which can address the needs of future generations and relies more on greener means of transportation such as walking, riding and public transport. However, the currently used methods of data collection are inaccurate, costly and hard to perform quickly and frequently. The main objective of Atlas II is to automatically record individuals’ trips, when it is running on their phones, without an unnecessary interaction with participants or an interference with their ordinary phone usage. This application only requires a minimum level of participants’ cooperation to specify the mode and purpose of their recorded trips and upload them on the Atlas servers at their convenience. Since Atlas II is installed on individual participants’ mobile phones and uses GPS/GSM signals to track the participants’ trips, the resulting data are easy to collect and aggregate. Furthermore, this application captures accurate trips’ data, instead of asking people to recall their trips over a past period of time, as it is often done in the traditional methods of data collection. The collected data can significantly improve our understanding of people’s travel behaviour in each region, which in turn assist local
councils and transport authorities to revise the strategies and accurately plan for a more sustainable transport system.

Atlas II is developed to work on both iPhones and Android phones. GPS, GSM and Wi-Fi signals are used by Atlas II to automatically detect participants’ trips and record the trips’ data in the background, without user interactions. A series of smart algorithms have been implemented in Atlas II to reduce the application’s battery consumption and to eliminate inaccuracies, while it is recording a participant’s trips. The application has an advanced surveying functionality that allows researchers to create dynamic surveys at any time during the data collection, and ask the required questions from the participants. The participants can review their travel history on their smartphones or through a web portal, which provides them with details and useful summaries of their everyday trips. Ease of use and usefulness are
considered at their highest possible level to encourage the participants to continue participating in the data collection projects.

As an active research team in Australia, we invite all interested individuals who are happy to assist us in the research on sustainable, green transport development to install Atlas II on their smartphones and participate in our trans-boundary studies. Atlas II can be installed on every iPhone through App Store or on every Android phone through Google Play. The application updates are made regularly available on App Store as well as Google Play to improve the functionalities of the application.
Atlas project and the relevant applications such as Atlas II comply with the Australian and New Zealand’s codes of conduct and ethical research. The participants’ data are uploaded on the secure Atlas servers, only when the respective participants explicitly confirm the upload process. One can always decide to delete his/her records (whether uploaded or not) for each single day of participation. The data uploaded on the Atlas servers are not related to any recognisable personal information. These data are only used for research and development purposes and help the research team to better understand the dynamic nature of people’s travel demands in the participating regions.

For any enquiries about Atlas project and ATLAS II application, please contact us:

**Dr Mahmoud Mesbah**  
Tel: +61 7 3365 3619  
Email: mahmoud.mesbah@uq.edu.au

**Mr Behrang Assemi**  
Tel: +61 7 3365 3520  
Email: b.assemi@uq.edu.au

**School of Civil Engineering, Advanced Engineering Building**  
**The University of Queensland, St Lucia, QLD 4072, Australia**