

# **Abstract Book**

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**An application of data mining to build the OD matrix in developing countries: An Argentinean case study**

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Providing an efficient public bus transport system is a critical issue in modern cities, as it is a fundamental element for the well-being of citizens. However, this system is generally very expensive and this cost is not usually offset by the income from the system. Therefore, governments have to spend a significant amount of their public budget to provide an efficient, accessible and good quality service. Considering this, new ideas to minimize the cost of the system are very welcome, especially in developing countries that tend to suffer from a shortage of resources. Moreover, in the last decades, sustainability has also been integrated as an important criterion in public transportation system since this system can be an important contributor to air pollution of a city. This work aims to address the public bus transport system in the city of Bahía Blanca located in the South of Argentina. The contribution of this work consists in the development of a processing methodology to analyze the data of the travel smart cards of the users of the system to estimate the origin-destination matrix of passengers and the use of this information to optimize the frequency and layout of the bus lines (UTN FRBB PID TVECB0008249). The result is the OD matrix of the city.

*Keywords: Bus Transport System; OD matrix; Data analysis; Simulation*