

Traffic Data Collection and its Standardization

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Editors

Traffic Data Collection and its Standardization

 Springer

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Preface

A nice night of October 2007, in Beijing, during the XV World Conference on ITS a number of colleagues met informally for a dinner party that spontaneously became a vivid discussion on the importance of traffic data for all types of purposes. Researchers can hardly do any progress in modeling, developing, and testing theories without suitable data, and what practitioners can do in real life is limited not only by technology but also by the availability of the required data. Quite frequently, the data and not the technologies are what determine how far we can go.

Any discussion about traffic data leads in a natural way to a discussion on the variety of traffic data sources, formats, levels of aggregation, accuracies, and so on. Consequently, we moved to talk on the initiative that Kuwahara had undertaken in his traffic laboratory at the University of Tokyo, known as the International Traffic Data Base, and thus smoothly but inexorably we came to agree that it would be convenient to organize a workshop to continue our discussion at a more formal level, share our points of view with other colleagues, listen what they had to say and, if possible, disseminate the findings in our professional and academic communities.

This was the way in which we came to organize an International Workshop on Traffic Data Collection and its Standardization that was held on September 8–9, 2008 in Barcelona, whose objectives were rooted on a reflection about: What do we need traffic data for, the dependencies on the quality, other relevant properties of the data, and their uses.

Thinking of traffic data usage, one primarily thinks of a variety of applications ranging from the most classical traffic control ones to the most advanced real-time control and management implementing modern ITS applications. All these applications are primarily based on the availability of traffic data supplied by a Data Collection system, which, equipped with more or less sophisticated technologies, provides measurements on the fundamental traffic variables – supposedly with the required level of temporal aggregation – and perhaps, when the technology allows it, additional measurement on other variables of interest depending on the type of application in which they will be used.

But, applications are supported by models and in fact the primary use of the data is to provide the input to traffic models, whose qualities strongly depend on the quality, consistency, robustness, completion and other characteristics of the data.

This book contains a selected collection of papers presented at the Workshop dealing with

- Which kind of data are available and under what conditions
- What kind of data are needed for
 - Online applications
 - Model calibration/validation
 - Safety analysis
- How reliable the sources of traffic data are
- How a standardization can accelerate developments in the field, and
- How traffic data can be accessed easily

We sincerely hope that our colleagues, professionals as well as academicians, find this book a useful contribution. If this is the case we will feel rewarded with the service provided to our community.

Summer 2009
Barcelona, Spain

Jaume Barceló
Masao Kuwahara

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