Natasha Petrovska Aleksandar Stevanovic Borko Furht

# Innovative Web Applications for Analyzing Traffic Operations



# SpringerBriefs in Computer Science

Series Editors

Stan Zdonik

Shashi Shekhar

Jonathan Katz

Xindong Wu

Lakhmi C. Jain

David Padua

Xuemin ShermanShen

Borko Furht

V.S. Subrahmanian

Martial Hebert

Katsushi Ikeuchi

Tokyo, Japan

Bruno Siciliano

Sushil Jajodia

Newton Lee

Natasha Petrovska • Aleksandar Stevanovic Borko Furht

# Innovative Web Applications for Analyzing Traffic Operations



Natasha Petrovska Florida Atlantic University Boca Raton, FL, USA

Borko Furht Florida Atlantic University Boca Raton, FL, USA Aleksandar Stevanovic Florida Atlantic University Boca Raton, FL, USA

ISSN 2191-5768 ISSN 2191-5776 (electronic) SpringerBriefs in Computer Science ISBN 978-3-319-33318-2 ISBN 978-3-319-33319-9 (eBook) DOI 10.1007/978-3-319-33319-9

Library of Congress Control Number: 2016942565

### © The Author(s) 2016

This work is subject to copyright. All rights are reserved by the Publisher, whether the whole or part of the material is concerned, specifically the rights of translation, reprinting, reuse of illustrations, recitation, broadcasting, reproduction on microfilms or in any other physical way, and transmission or information storage and retrieval, electronic adaptation, computer software, or by similar or dissimilar methodology now known or hereafter developed.

The use of general descriptive names, registered names, trademarks, service marks, etc. in this publication does not imply, even in the absence of a specific statement, that such names are exempt from the relevant protective laws and regulations and therefore free for general use.

The publisher, the authors and the editors are safe to assume that the advice and information in this book are believed to be true and accurate at the date of publication. Neither the publisher nor the authors or the editors give a warranty, express or implied, with respect to the material contained herein or for any errors or omissions that may have been made.

The use of "Google Maps $^{TM}$ " refers to the Google Maps $^{TM}$  mapping service, a registered trademark of Google Inc.

Printed on acid-free paper

This Springer imprint is published by Springer Nature
The registered company is Springer International Publishing AG Switzerland

## **Preface**

The road traffic along with other key infrastructure sectors such as telecommunication, power, and others has an important role in the economic and technological growth of one country. Traffic engineers and analysts are responsible for solving a diversity of traffic problems, such as traffic data acquisition and evaluation. In response to the need to improve traffic operation, researchers implement advanced technologies and integration of systems and data and develop state-of-the-art applications. This book introduces three novel web applications with an aim to offer traffic operators, managers, and analysts the possibility to monitor the congestion and analyze incidents and signal performance measures. They offer more detailed analysis providing users with insights from different levels and perspectives. The benefit of providing these visualization tools is more efficient estimation of the performance of local transport networks, thus facilitating the decision-making process in case of emergency events.

Boca Raton, FL

Natasha Petrovska Aleksandar Stevanovic Borko Furht