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Titolo	Intelligent Transportation Systems : Dependable Vehicular Communications for Improved Road Safety // edited by Muhammad Alam, Joaquim Ferreira, José Fonseca
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Descrizione fisica	1 online resource (277 p.)
Collana	Studies in Systems, Decision and Control, , 2198-4182 ; ; 52
Disciplina	388.312
Soggetti	Electrical engineering Transportation engineering Traffic engineering Automotive engineering Communications Engineering, Networks Transportation Technology and Traffic Engineering Automotive Engineering
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references at the end of each chapters.
Nota di contenuto	Deterministic Real-Time Communication Protocols for ITS -- Vehicular Flexible Time-Triggered (V-FTT) Protocol -- Fault Tolerance in Vehicular Communication -- Fail Silent Road Side Unit architecture for Vehicular Communication -- Low Delay Recovery Mechanism for RSU backup -- Fault Tolerant Vehicular Flexible Time-Triggered protocol (V-FTT) protocol -- Security Challenges in Vehicular Communication Networks -- Security Considerations and Solutions for IEEE 802.11p -- Communication and Services Analysis of IEEE 1609.2 -- Simulators and Testbed Development for ITS: Design and Requirements -- Traffic and Travel models for ITS -- Deterministic Real-Time Communication Simulator for ITS -- IEEE 802.11P Enhanced Transceiver for ITS -- Intelligent Cooperative Testbed Prototype for ITS.
Sommario/riassunto	This book presents cutting-edge work on the most challenging research issues concerning intelligent transportation systems (ITS), introducing selected, highly relevant advanced research on scheduling

and real-time communication for vehicular networks, as well as fault tolerance, test beds and simulations for ITS. The authors define new architectures that support cooperative sensing in ITS and offer guidance for the development of a reference end-to-end implementation. The presented results allow advanced traffic and travel management strategies to be formulated on the basis of reliable and real-time input data. The effectiveness of these new strategies, together with the proposed systems, is assessed in field trials and via simulations. The chapters in this book detail new research findings, algorithms, protocols, and the development of an implementation platform for ITS that merges and integrates heterogeneous data sources into a common system. In addition, they provide a set of advanced tools for the control, monitoring, simulation, and prediction of traffic that result in safer, more sustainable, and less congested roads. Work undertaken within the framework of the FP7 project ICSI (Intelligent Cooperative Sensing for Improved traffic efficiency) is also included in the research activities addressed.
