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Nota di contenuto	Cover; Copyright page; Preface; Contents; Chapter 1 Air Transportation: Irregular Operations and Control; 1 Introduction; 2 Flow constraints in the infrastructure of commercial aviation; 3 Restricting schedules; 4 Air traffic flow management; 5 Simulation models; 6 Airline schedule recovery; 7 Robust airline scheduling; 8 Conclusions; Acknowledgements; References; Chapter 2 Public Transit; 1 Introduction; 2 Strategic planning; 3 Tactical planning; 4 Operational planning; 5 Real-time control; 6 Conclusion; References; Chapter 3 Passenger Railway Optimization; 1 Introduction; 2 Line planning 3 Train timetabling4 Train platforming; 5 Rolling stock circulation; 6 Train unit shunting; 7 Crew planning; 8 Perspective; References; Chapter 4 Maritime Transportation; 1 Introduction; 2 Characteristics and terminology of maritime transportation; 3 Strategic planning in maritime transportation; 4 Tactical planning in maritime transportation; 5 Operational planning; 6 Robustness in maritime transportation; 7 Perspectives and future research; 8 Conclusion; Acknowledgements; References; Chapter 5 Dynamic Models for Freight Transportation; 1 Introduction; 2 Some illustrative applications 3 A resource model4 Modeling exogenous information processes; 5 Decisions; 6 System dynamics; 7 An optimization formulation; 8

Algorithmic strategies; 9 Approximating value functions in dynamic programming; 10 The organization of information and decisions; 11 Illustrative models; 12 Perspectives on real-time problems; References;

Chapter 6 Vehicle Routing; 1 Introduction; 2 The classical vehicle routing problem; 3 The vehicle routing problem with time windows; 4 The inventory routing problem; 5 Stochastic vehicle routing problems; Acknowledgements; References

Chapter 7 Transportation on Demand1 Introduction; 2 The vehicle routing problem with pickup and delivery; 3 The dial-a-ride problem; 4 Urban courier service problems; 5 The dial-a-flight problem; 6 Ambulance fleet management; Acknowledgements; References; Chapter 8 Intermodal Transportation; 1 Introduction; 2 Freight transportation systems; 3 System and service network design; 4 Container fleet management; 5 Models for seaport container terminal operations; 6 Strategic planning of multimodal systems; 7 Perspectives; Acknowledgements; References; Chapter 9 Hazardous Materials Transportation
1 Introduction2 A high-level view of hazmat logistics research; 3 Risk assessment; 4 Routing and scheduling; 5 Facility location and transportation; 6 Synthesis and future research directions; Acknowledgements; References; Chapter 10 Traffic Equilibrium; 1 Background; 2 The basic theme; 3 Variations; 4 Solution algorithms: The basic problem; 5 Solution algorithms: Variations; 6 Optimization in a user equilibrium context; Appendix A: A primer on variational inequalities; Appendix B: A summary of key notations; References; Chapter 11 ITS and Traffic Management; 1 Introduction
2 Traffic flow modeling

Sommario/riassunto

This book contains eleven chapters describing some of the most recent methodological operations research developments in transportation. It is structured around the main transportation modes, and each chapter is written by a group of well-recognized researchers. Because of the major impact of operations research methods in the field of air transportation over the past forty years, it is befitting to open the book with a chapter on airline operations management. This book will prove useful to researchers, students, and practitioners in transportation and will stimulate further research.
