Glossary Of Railway Terminology Rssb

A White Paper, dated July 2007. The Rail Technical Strategy published by the DfT is available separately (ISBN 9780115528903)

In railway applications, performance studies are fundamental to increase the lifetime of railway systems. One of their main goals is verifying whether their working conditions are reliable and safety. This task not only takes into account the analysis of the whole traction chain, but also requires ensuring that the railway infrastructure is properly working. Therefore, several tests for detecting any dysfunctions on their proper operation have been developed. This book covers this topic, introducing the reader to railway traction fundamentals, providing some ideas on safety and reliability issues, and experimental approaches to detect any of these dysfunctions. The objective of the book is to serve as a valuable reference for students, educators, scientists, faculty members, researchers, and engineers.

The Handbook of RAMS in Railway Systems: Theory and Practice addresses the complexity in today's railway systems, which use computers and electromechanical components to increase efficiency while ensuring a high level of safety. RAM (Reliability, Availability, Maintainability) addresses the specifications and standards that manufacturers and operators have to meet. Modeling, implementation, and assessment of RAM and safety requires the integration of railway engineering systems; mathematical and statistical methods; standards compliance; and financial/economic factors. This Handbook brings together a group of experts to present RAM and safety in a modern, comprehensive manner.

For as long as locomotives have been the stars of North American railroads, rolling stock has trundled and raced along behind, carrying raw materials, finished goods, and people. Illustrated with more than 250 photographs, Railroad Rolling Stock traces the evolution of various forms of rolling stock from throughout the history of North American railroading. Each chapter features a specific type: from boxcars, gondolas, and hoppers to tankcars, flatcars, and auto racks, intermodal rolling stock, passenger equipment, the venerable caboose, and even maintenance-of-way (MOW) equipment. Throughout, the photographs reflect the grand geographic and technological breadth of North American railroading and are accompanied by detailed captions identifying the rolling stock pictured and explaining their roles in the history of North American railroading from the “Golden Age” to present.

This book on the dynamics of rail vehicles is developed from the manuscripts for a class with the same name at TU Berlin. It is directed mainly to master students with pre-knowledge in mathematics and mechanics and engineers that want to learn more. The important phenomena of the running behaviour of rail vehicles are derived and explained. Also recent research results and experience from the operation of rail vehicles are included. One focus is the description of the complex wheel-rail contact phenomena that are essential to understand the concept of running stability and curving. A reader should in the end be able to understand the background of simulation tools that are used by the railway industry and universities today.

Risk, Reliability and Safety contains papers describing innovations in theory and practice contributed to the scientific programme of the European Safety and Reliability conference (ESREL 2016), held at the University of Strathclyde in Glasgow, Scotland (25—29 September 2016). Authors include scientists, academics, practitioners, regulators and other key individuals with expertise and experience relevant to specific areas. Papers include domain specific applications as well as general modelling methods. Papers cover evaluation of contemporary solutions, exploration of future challenges, and exposition of concepts, methods and processes. Topics include human factors, occupational health and safety, dynamic and systems reliability modelling, maintenance optimisation, uncertainty analysis, resilience assessment, risk and crisis management.

This Handbook provides experiential advice to tackle the technical, institutional, and financial challenges faced by decision makers considering urban rail projects.

The Rail Technical Strategy is a long-term vision of the railway as a system, which identifies the challenges that will have to be met over the next 30 years, which should be read alongside the 2007 White Paper 'Delivering a Sustainable Railway'. It starts by looking at the needs and requirements, including the strategic drivers and future traffic types, before examining the characteristics of a future railway system. Amongst the key themes is the need for a more precisely engineered system that can be run to maximum capacity and improve environmental performance. The final section looks at the ways the strategy can be implemented.

Use of big data has proven to be beneficial within many different industries, especially in the field of engineering; however, infiltration of this type of technology into more traditional heavy industries, such as the railways, has been limited. Innovative Applications of Big Data in the Railway Industry is a pivotal reference source for the latest research findings on the utilization of data sets in the railway industry. Featuring extensive coverage on relevant areas such as driver support systems, railway safety management, and obstacle detection, this publication is an ideal resource for transportation planners, engineers, policymakers, and graduate-level engineering students seeking current research on a specific application of big data and its effects on transportation.

In recent years, for reasons connected to the organization of the industry, technical developments, and major safety concerns, rail human factors has grown in importance at an international level. Despite its importance, however, supporting literature has been largely restricted to specialist journal publications and technical reports. Rail Human Factors addresses this imbalance by providing the first fully comprehensive overview of the area. The volume includes contributions from leading ergonomists, psychologists, sociologists, management scientists and engineers whose common theme is to investigate, understand and design for people on the railways, including staff, passengers and the general public. Every area of ergonomics/human factors is covered: physical design of work and equipment in maintenance; cognitive ergonomics in driving, signalling and control; organizational and social ergonomics in the way teams are formed, plans are made and organizations are structured and run. Topics covered include: Systems views of rail human factors Driver models and performance Train and cab design Network and train control systems, including ERTMS Signals and signal SPADS Signalling and control center design Signaller performance Control center interfaces Workload, situation awareness, team working Human error and reliability Timetabling and planning Maintenance planning and work Safety climate and safety culture Passenger comfort and behaviour Station design Public information systems Level crossings Trespass and vandalism Ergonomics standards and guidelines Human Factors integration The book is the definitive guide for all those concerned with making railways safer, more

This book focuses on selected research problems of contemporary railways. The first chapter is devoted to the prediction of railways development in the nearest future. The second chapter discusses safety and security problems in general, precisely from the system point of view. In the third chapter, both the general approach and a particular case study of a critical incident with regard to railway safety are presented. In the fourth chapter, the question of railway infrastructure studies is presented, which is devoted to track superstructure. In the fifth chapter, the modern system for the technical condition monitoring of railway tracks is discussed. The compact on-board sensing device is presented. The last chapter focuses on modeling railway vehicle dynamics using numerical simulation, where the dynamical models are exploited.

Advances in Safety, Reliability and Risk Management contains the papers presented at the 20th European Safety and Reliability (ESREL 2011) annual conference in Troyes, France, in September 2011. The books covers a wide range of topics, including: Accident and Incident Investigation; Bayesian methods; Crisis and Emergency Management; Decision Making

The rail human factors/ergonomics community has grown quickly and extensively, and there is much increased recognition of the vital importance of ergonomics/human factors by rail infrastructure owners, rail operating companies, system developers, regulators and national and trans-national government. This book, the fourth on rail human factors, is

"The Modern Railways Dictionary of Railway Industry Terms is an essential guide to the complex world of the modern railway scene. Today's privatised railway industry has created for itself a whole new range of jargon to be added to that already in use in an industry whose history now spans two centuries." "In this book the reader is guided through the terminology that is in present use, reflecting the new railway structures that have replaced the old. The organisation of the railway itself is explained and its relationship with other bodies. This includes the Department for Transport and Network Rail as well as crucial areas such as the responsibility for safety and the funding arrangements for the Passenger Transport Executives." "While much of the book is arranged alphabetically, there are a number of topics - from the legal position to signalling, passenger services to rolling stock and so on - organised thematically."--BOOK JACKET.

Britain's privatised railways inspire considerable debate about organisation, financing, and development. This volume provides an account of the progress made by British Rail prior to privatisation.

It is thirteen years since the Railways Act 1993 started the process of privatising British Rail, replacing it with one company owning and managing the infrastructure, an open-access system for freight services and a series of twenty-five passenger franchises let to private companies for a specified period of time. This period has seen almost continuous change, and there is now a new 'triumvirate' framework with the Department for Transport, the Office of Rail Regulation and Network Rail in place, with the third generation of franchises in the process of being let and the number being reduced to nineteen. The Committee's report examines the current franchising system, focusing on the coherence of its objectives, the effectiveness of the process for awarding franchises and the management of franchise agreements, and whether more competition and vertical integration is needed. Findings include that the current system represents a policy muddle which lacks a coherent framework for the development of good services and delivery of value for money for passengers and taxpayers. The only way the Government can increase capacity and improve services for the long-term is to drop the dogmatic pursuit of competition in its decision-making as to what the private and public sectors can and should do in future. The Government's forthcoming long-term strategy for the railways will need to address these issues, and to set out a structure and a strategy capable of securing quality passenger rail services to meet demand over the next half a century.

Herein lie the answers to crime and disorder. So many people become dispirited, fatalistic or angry about crime instead of seeing crime problems, like business setbacks, as challenges or even opportunities. This book sets out a clear, systematic and demonstrably successful strategy for reducing the temptations and opportunities for crime. You cannot change the travelling public or the communities which public transport serves, but you can change the immediate circumstances and surroundings that you present to people, you can re-think and reinvigorate your service offering, you can recruit help from other agencies, from staff and even those who ride the system, and you can make the transition from being reactive to being ahead of the game. The theory is backed up by concrete examples of how and why and where smart-thinking has worked before to outflank crime-this is not just off-the-shelf self-help philosophy but a compendium of real-world best practice. What's more, you can often make money, or at least save a lot of money, by doing the right thing, and this book tells you how. Nick Ross,BBC Crimewatch UK, Chairman, UCL Jill Dando Institute of Crime Science Advisory Board

Given that there are still many unclear concepts, mutual contradictions and imperfections in methodologies used in the field of track access charging, this book acts as a communication tool for researchers, and discusses these charges with regard to rail freight competitiveness. It addresses four main topics: namely, the technical features of freight transportation and the costs incurred; the impact of incoherence and volatility of freight traffic volume; the market response to the track access charge level; and the influence of transport policy and state subsidies. The text will appeal to infrastructure managers around the world, especially those in networks where there is an intention either to facilitate the shift of freight to railways or to develop rail freight corridors. It illustrates that there are significant differences in the causation of costs on passenger and freight railways, and raises important questions that must be considered when communicating with consumers and the state.

Published by the UK's Health and Safety Executive, this report provides a summary of the events leading up the 1991 Severn Tunnel train accident.

Fourth edition of the industry-renowned Railway Engineering Encyclopaedia. Expanded, enhanced, fully cross-referenced and illustrated throughout this is an indispensable book for minister, professional, trainee and enthusiast alike.

Draft Corporate Manslaughter Bill : First joint report of session 2005-06, Vol. 3: Oral and additional written Evidence

Fatigue is a major issue affecting safety and quality of service in the railway industry. This book reviews key aspects of this important subject. It begins by providing an overview of the subject, discussing fatigue at the wheel-rail interface and in other aspects of infrastructure. It then considers fatigue in railway and tramway track, looking at causes of potential failure in such areas as

rails and fixings as well as sleepers. It also reviews failure points in structures such as embankments and cuttings. The book analyses fatigue in railway bridges, looking in particular at masonry arch bridges as well as metal and concrete bridges. Two final chapters review safety and reliability issues affecting escalators and lifts. Fatigue in railway infrastructure is a helpful reference for those in the railway industry responsible for infrastructure maintenance as well as those researching this important subject. Provides a concise review of fatigue in the railway infrastructure Examines the causes of potential failure in rails, fixings and sleepers Analyses fatigue in railway bridges including masonry arch, metal and concrete structures

Business practices are rapidly changing due to technological advances in the workplace. Organizations are challenged to implement new programs for more efficient business while maintaining their standards of excellence and achievement. Human Performance Technology: Concepts, Methodologies, Tools, and Applications is a vital reference source for the latest research findings on real-world applications of digital tools for human performance enhancement across a variety of settings. This publication also examines the utilization of problem-based instructional techniques for challenges and solutions encountered by industry professionals. Highlighting a range of topics such as performance support systems, workplace curricula, and instructional technology, this multi-volume book is ideally designed for business executives and managers, business professionals, human resources managers, academicians, and researchers actively involved in the business industry.

This publication forms part of the extended series on railway safety principles and guidance dealing with staff competence, management and organization, railway operations, and human factors. Part 4A centres around a number of principles, each with underlying factors and guidance on each principle, offering explanations and examples. It is primarily aimed at those who are responsible for managing the competence of individuals and teams in the railway industry, whose work has an impact on operational safety (including the safety of the public, themselves and their co-workers). It is of particular interest to railway infrastructure controllers, all train/tram operating companies, maintenance/renewal companies, and their contractors/subcontractors.

Britain from the Rails Guide - Travel tips on British rail travel including Wales and Scotland, transportation, local history, Slow travel, regional holidays. This guide also features practical advice on fares and rail lines, secret railways, London, Great Western, local food and restaurants, hotels and B&Bs, culture and festivals, tours. --Publisher

The Fire and Rescue Service Operational Guidance - Railway Incidents presents a framework for a safe system of work for operations at incidents involving railways. It provides robust yet flexible guidance that can be adapted to the nature, scale and requirements of the incident. Incidents involving railways may generate intense media attention where the operations of the emergency services are rigorously scrutinised. Whilst much of this attention is approving it will invariably focus on the preparedness of the emergency services and their operational effectiveness. Such incidents may place significant demands on local fire and rescue services and often require a national co-ordinated response from across the country

Considering maintenance from a proactive, rather than reactive, perspective, Maintenance Excellence details the strategies, tools, and solutions for maximizing the productivity of physical assets—focusing on profitability potential. The editors address contemporary concerns, key terms, data requirements, critical methodologies, and essential mathematical needs. They present maintenance in a business context, review planning, measurement, feedback, and techniques related to cost, efficiency, and results, and summarize applications of tools and software from statistics and neural networks to cost-optimized models.

Despite modern appearances, colour light signalling has been around since the 1920s and is just as full of subtle details and variations as 'traditional' semaphore signalling. The inclusion of a working signalling system within a model railway layout is technically challenging but adds realism and 'wow' factor. This new book contains a brief history of the development and deployment of colour light signalling in the UK; a basic explanation of how track design influences signalling design; an overview of the different types of point motor and, finally, descriptions of the different components that make up a signalling system and how these components are used and controlled. It is an extensive guide to developing and adding realistic colour light signalling to a model railway layout.

In today's maturing railway industry, the key to getting - and staying - ahead is to keep up with the latest developments across all sectors involved in railway technology. There is pressure upon the rail industry to deliver more customer benefits, with greater cost-effectiveness, faster.

This NAO report examines how effectively the Strategic Rail Authority/Department for Transport and Network Rail turned around the West Coast programme between 2002 and 2006 in terms of delivering outputs and expected outcomes in line with the schedule and targets set by the government and set out in the West Coast Main Line Strategy of June 2003. Three areas were examined in detail: how the Strategic Rail Authority/Department of Transport and Network Rail addressed the weaknesses in programme management before 2002 to achieve delivery to schedule; whether costs have been brought under control; whether the programme is delivering its anticipated benefits. A number of findings and conclusions have been set out, including: that the SRA and Network Rail did turn around the programme through an industry-supported strategy, reducing technology risk through reliance on conventional signalling for most of the upgrade; there were some implementation problems in two areas, axle counters and computer-based interlocking signalling, which resulted in an increase in costs; in general, Network Rail's control of costs has improved, but an analysis of its reported and forecast expenditure shows a final programme spend of £8.6 billion, with an overspend of around £300 million; for renewal work on the west coast route, Network Rail is within its overall funding allowance and on course to achieve 70% of the £940 million cost efficiencies assumed by the rail Regulator; at present the Strategic Rail Authority provides subsidies on an annual basis to Virgin West Coast of £590 million in 2005-06 period, this amount represents a payment needed to maintain train services and is outside the £8.6 billion; the project has delivered journey time improvements, with punctuality and train reliability on the West Coast having improved since 2005; in the 2005-06 period, passenger journeys on Virgin West Coast grew by over 20%, and the remaining work on the programme to 2009 will increase passenger train and freight capacity, but the consensus in the rail industry is that around 2015 to 2020, the line will have insufficient capacity to sustain current levels of growth in passenger and freight traffic; the overall strategy has delivered passenger benefits from a modernised track, but value for money for the programme has not been maximised. The report sets out a number of recommendations, including: that the Department in future should model and appraise costs and benefits for different options for the timing of delivery of the project; that the Department and the Office of Rail Regulation should further develop standard definitions for costs for different stages and elements of transport projects; where projects propose new technology at significant cost, the Department and ORR should ensure that Network Rail draws up a

supporting business case, addressing costs, benefits and possible challenges along with a supporting implementation and maintenance strategy; the ORR should ensure Network Rail progresses its plans and adopts best practice strategy, and this approach should include a company-wide strategy that addresses whole life costs in its investment appraisal/project business cases, along with improved recording of maintenance and renewals costs for its equipment.

Human factors and ergonomics have made considerable contributions to the research, design, development, operation and analysis of transportation systems and their complementary infrastructure. This volume focuses on the causations of road accidents, the function and design of roads and signs, the design of automobiles, and the training of the driver. It covers accident analyses, air traffic control, control rooms, intelligent transportation systems, and new systems and technologies.

Colour Light Signalling for Model RailwaysThe Crowood Press

This book shows that transport matters. Comprising a series of highly accessible chapters written by respected experts, it reviews key transport issues and explains how and why effective and efficient transport is fundamental to successfully addressing all manner of public policy goals. Contributors explore how we ‘do’ transport, as a result of the technologies available to us and the cultures surrounding how we use them, and examine how this has significant social, economic and environmental consequences. They also provide key recommendations for how we could do things differently to bring about a happier, healthier and more economically secure future for all of us.

Contents: Introduction; Integrating the tramway; Tramway clearances; The infrastructure; Tramstops; Electric Traction System (ETS); Signalling; Tram design and construction; Tramway signs for tram drivers; Road and tram traffic signalling integration; Heritage tramways; Non-passenger carrying trams; Common terms; Registration.