Railroads, Vol. 2

Transportation Research Record: Journal of the Transportation Research Board Volume 2608 (2017)

ISBN: 978-1-5108-5411-6

Printed from e-media with permission by:

Curran Associates, Inc. 57 Morehouse Lane Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2017) by Transportation Research Board of the National Academies All rights reserved.

ISBN (Print) 978-1-5108-5411-6 ISBN 2017 Printed Set (All Issues) 978-1-5108-5406-2

Printed by Curran Associates, Inc. (2018)

For permission requests, please contact Transportation Research Board of the National Academies at the address below.

Transportation Research Board The National Academies of Sciences, Engineering, and Medicine 500 Fifth Street, NW Washington, DC 20001

Phone: (202) 334-2934 Fax: (202) 334-2519

trbsales@nas.edu

Additional copies of this publication are available from:

Curran Associates, Inc. 57 Morehouse Lane Red Hook, NY 12571 USA

Phone: 845-758-0400 Fax: 845-758-2633

Email: curran@proceedings.com Web: www.proceedings.com

TABLE OF CONTENTS

Railway Human Factors and Operational Issues: What Can We Learn from Locomotive Voice and	
Video Recorders?	1
Rudin-Brown, Christina M.; Roosenboom, Darlene; Finch-Field, Clayton	
Survey of Future Railroad Operations and the Role of Automation	10
Brooks, James D.; Groshong, Hannah; Liu, Andrew; Houpt, Paul; Oman, Chuck	
Current Issues in Highway–Rail Grade Crossing Hazard-Ranking and Project Development	19
Bayesian Spatial Models of Crash Frequency at Highway–Railway Crossings	27
Train Data Collection and Arrival Time Prediction System for Highway–Rail Grade Crossings	36
Nested Sorting and Clustering for Visualization of Accidents in Highway–Rail Grade Crossings	46
Cluster-Based Approach to Analyzing Crash Injury Severity at Highway–Rail Grade Crossings	58
Synthesis of North American High-Speed Passenger Rail Ridership Forecasting	70
Case Study of Benefit-Cost Analysis of an Intercity Passenger Rail Service	78
Loetterle, Francis E.; Johnson, Melanie; Quandel, Charles; Barr, Carey; Komendantov, Andrew; Horst, Toni	
Comprehensive Approach to Allocate Reliability and Cost in Passenger Rail System Design	86
Railway Engineering Education Symposium: Evolving to Rebuild a Growing Rail Academic Community	96
Lautala, Pasi; Dick, C. Tyler	
Economics and Planning of Short-Haul and Short-Line Railway Intermodal Service: Lessons from Previous and Current Operations	105
Pengelly, Sean P.; Dick, C. Tyler	
Railway Capacity Allocation Modeling Using a Genetic Algorithm	115
Macrolevel Classification Yard Capacity Modeling	125
Zhang, Licheng; Jin, Mingzhou; Ye, Zhirui; Li, Haodong; Clarke, David B.; Wang, Yanyan	
Risk Comparison of Transporting Hazardous Materials in Unit Trains Versus Mixed Trains	134
Author Index	