A STUDY OF THE ROLE OF HUMAN FACTORS IN RAILWAY OCCURRENCES AND POSSIBLE MITIGATION STRATEGIES

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Conducted in Support of the Railway Safety Act Review

by

Maury Hill and associates, Inc.
Adaptive Safety Concepts™

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The Minister of Transport, Infrastructure and Communities initiated a review of the *Railway Safety Act* to further improve railway safety in Canada and promote a safety culture within the railway industry. A *Railway Safety Act Advisory Panel* (RSA Panel) was appointed to help him in conducting the review and to provide him with findings and recommendations to improve railway safety. In support of their task, the Advisory Panel undertook a series of independent studies.

The objective of this study was to provide a description of role that human factors play in railway train operation, grade crossing, pedestrian and trespassing accidents and incidents, and to examine the effectiveness of the mitigation strategies currently in use by the railway industry. The objective was achieved by:

- reviewing legislation, regulations and related documents;
- conducting interviews with individuals within the Transportation Safety Board (TSB) of Canada, Transport Canada and the rail industry and unions;
- analyzing occurrence data and occurrence reports, and
- assessing current industry practices and regulatory standards influencing the identified human factors related cause factors.

The study has identified a number of shortcomings related to data collection and sharing, and the mitigation of causal factors related to human factors. Several high-level recommendations have been provided addressing deficiencies in the following areas:

- Data Reporting and Sharing Requirements
- TC Rail Safety Competencies related to human factors
- Human Factors and System Design
- Work/Rest Rules
- Crew Resource Management Training
- Changing the Culture
- The Safety Spectrum
- The RSA