

Asper School of Business, University of Manitoba

Member Information

<u>Name</u>	<u>Year</u>	<u>Major</u>
Tristan Garland	2026	Finance
Garrison Glatz	2025	Finance
Thea Hughes	2026	Generalist
Darbara Kaushal	2026	Generalist
Benjamin Swistun	2026	Finance

Advisors: Howard Harmatz, Lauren Slegers

Topic: Tunnel Vision: correcting Union Pacific's low-cost high calamity business model.

Audience: Union Pacific's Board of Directors: (William J. DeLaney, David B. Dillon, Sheri H. Edison, Teresa M. Finley, Lance M. Fritz, Deborah C. Hopkins, Jane H. Lute, Michael R. McCarthy, Jose H. Villarreal, and Christopher J. Williams.)

Executive Summary

Union Pacific is the second-largest railway in the United States with a market cap of \$121.154 billion. Union Pacific operates a vast network of railroads across 23 states in the western two-thirds of the country, covering a total of 32,000 miles of track. However, Union Pacific Railway had the worst record in the industry for derailments and collisions in 2022. Over the last century, railway incidents were becoming less common, but since 2020, that trend has reversed, and the number of incidents has begun increasing. Despite being the second-largest railway operator in the US, Union Pacific has more than twice the number of derailments and collisions per million miles than the largest US operator.

The root of this issue is an increase in the length and weight loads of trains with little improvement to tracks and sensor technology. The primary goal of railway executives seems to be to minimize expenses to maximize profits. Union Pacific tries to reduce costs by increasing the amount of transported freight per train, maximizing the operating efficiency of locomotives. However, increased weight and length of trains can cause the wheels to get extremely hot, which makes it more likely for cars to derail. To prevent this from happening, railroad companies have already installed sensors to catch the increased wheel temperature, termed "hot box detectors," which tell inspectors to stop the train and inspect the rail car for potential failure. These detectors often catch the problem too late, causing the train to derail. This inability to detect possible derailments ahead of time has had devastating effects and impacts on human lives, the environment, and business for the railroad company.

Three main causes of derailment are broken tracks, lack of planning regarding track geometry, and bearing failure. All three of these issues are amplified by increased lengths and weights, and few countermeasures are in place to reduce derailments. Therefore, our recommendation to this issue is to 1) install and upgrade the current detector system with acoustic bearing detectors and broken track detectors, 2) implement safe train speed and operating practices, and 3) restructure company responses to derailments.