



Rail is a crucial component of the US logistics system, and a strike would lead to significant logistical dislocations, exacerbate ongoing supply chain challenges, put additional upward pressure on prices and, thus, do substantial economic harm. Although a tentative agreement was reached between the major railways and union representatives (with the help of Biden Administration officials), it requires ratification by union members before going into effect. One of the largest of the 12 unions recently rejected the package, and concern has been expressed by several others.

In order to illustrate the potential economic damage stemming from a strike, The Perryman Group analyzed the cost of a hypothetical one-month shutdown to the US and Texas economies. This assessment is based on the proportion of the economy that relies on rail freight and involves a review of use of rail freight across several hundred detailed industrial sectors.

The Perryman Group estimates that a hypothetical one-month rail shutdown

would cost the US economy over \$285 billion in gross product and nearly 1.3 million job-years of employment. (A job-year is one person working for one year, although in this instance, it would likely be multiple individuals working partial years.) For Texas, a one-month rail shutdown has the potential to cost the economy over \$29 billion in gross product and nearly 97,700 job-years of employment.

Industries which would be particularly hard hit by a rail strike include chemicals & petroleum refining, food products, electric & electronic equipment, petroleum & natural gas, agricultural products, and fabricated metal products. Many of these industries are key export sectors for both the United States and Texas.

A major rail strike would be a substantial blow to the economy. In addition, it would further challenge the supply chain as it continues to recover from the pandemic. Higher prices and fewer choices for consumers would also be part of the inevitable fallout.

### The Estimated Economic Impact of a Hypothetical One-Month Rail Strike on Business Activity in Texas and the United States

Region	Expenditures	Gross Product	Personal Income	Job-Years*
United States	-\$1,066,500 m	-\$285,143 m	-\$158,769 m	-1,279,557
State of Texas	-\$87,259 m	-\$29,341 m	-\$15,933 m	-96,677

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Notes: Monetary values given in millions of 2022 US dollars. A job-year is equivalent to one person working for one year.

# The Estimated Economic Impact of a Hypothetical One-Month Rail Strike on Business Activity in Texas and the United States

Region / Industry	Total Expenditures	Gross Product	Personal Income	Job Years*
<b>UNITED STATES</b>				
<b>Agriculture</b>	<b>-\$42,632 m</b>	<b>-\$13,997 m</b>	<b>-\$6,058 m</b>	<b>-79,878</b>
<b>Mining</b>	<b>-\$76,231 m</b>	<b>-\$19,729 m</b>	<b>-\$10,105 m</b>	<b>-53,175</b>
Coal Mining	-\$9,107 m	-\$1,685 m	-\$1,762 m	-9,143
Crude Petroleum & Natural Gas	-\$49,995 m	-\$12,102 m	-\$4,254 m	-11,782
Miscellaneous Mining	-\$17,129 m	-\$5,942 m	-\$4,089 m	-32,250
<b>Utilities</b>	<b>-\$144,428 m</b>	<b>-\$25,863 m</b>	<b>-\$10,658 m</b>	<b>-37,084</b>
<b>Manufacturing</b>	<b>-\$750,690 m</b>	<b>-\$195,220 m</b>	<b>-\$112,929 m</b>	<b>-824,839</b>
Food Products & Tobacco	-\$127,874 m	-\$27,258 m	-\$12,240 m	-178,581
Textile Mill Products	-\$2,090 m	-\$470 m	-\$357 m	-5,043
Apparel	-\$259 m	-\$114 m	-\$55 m	-1,788
Paper & Allied Products	-\$18,366 m	-\$6,297 m	-\$3,142 m	-40,129
Printing & Publishing	-\$16,383 m	-\$8,833 m	-\$4,550 m	-32,236
Chemicals & Petroleum Refining	-\$320,857 m	-\$56,453 m	-\$30,608 m	-57,019
Rubber and Leather Products	-\$23,453 m	-\$8,555 m	-\$4,954 m	-58,153
Lumber Products & Furniture	-\$22,146 m	-\$7,446 m	-\$4,880 m	-77,513
Stone, Clay, & Glass Products	-\$15,089 m	-\$6,682 m	-\$3,467 m	-32,471
Primary Metal	-\$25,310 m	-\$6,605 m	-\$4,898 m	-35,976
Fabricated Metal Products	-\$40,955 m	-\$16,579 m	-\$9,708 m	-131,141
Machinery, Except Electrical	-\$9,582 m	-\$3,596 m	-\$2,540 m	-19,673
Electronic Equipment	-\$51,576 m	-\$24,718 m	-\$16,222 m	-74,262
Motor Vehicles & Equipment	-\$39,935 m	-\$11,664 m	-\$6,085 m	0
Instruments & Related	-\$17,500 m	-\$5,027 m	-\$4,079 m	-40,848
Miscellaneous	-\$19,316 m	-\$4,923 m	-\$5,144 m	-40,007
<b>Transportation</b>	<b>-\$52,518 m</b>	<b>-\$30,335 m</b>	<b>-\$19,018 m</b>	<b>-284,581</b>
<b>United States, All Industries</b>	<b>-\$1,066,500 m</b>	<b>-\$285,143 m</b>	<b>-\$158,769 m</b>	<b>-1,279,557</b>
<b>STATE OF TEXAS</b>				
<b>Agriculture</b>	<b>-\$1,400 m</b>	<b>-\$538 m</b>	<b>-\$254 m</b>	<b>-3,267</b>
<b>Mining</b>	<b>-\$18,438 m</b>	<b>-\$7,611 m</b>	<b>-\$3,121 m</b>	<b>-10,011</b>
Coal Mining	-\$396 m	-\$99 m	-\$113 m	-572
Crude Petroleum & Natural Gas	-\$17,296 m	-\$7,162 m	-\$2,746 m	-7,421
Miscellaneous Mining	-\$745 m	-\$349 m	-\$262 m	-2,018
<b>Utilities</b>	<b>-\$10,872 m</b>	<b>-\$2,275 m</b>	<b>-\$1,023 m</b>	<b>-3,472</b>
<b>Manufacturing</b>	<b>-\$52,685 m</b>	<b>-\$16,299 m</b>	<b>-\$9,744 m</b>	<b>-53,701</b>
Food Products & Tobacco	-\$5,975 m	-\$1,429 m	-\$700 m	-9,963
Textile Mill Products	-\$32 m	-\$8 m	-\$6 m	-90
Apparel	-\$9 m	-\$4 m	-\$2 m	-67
Paper & Allied Products	-\$589 m	-\$225 m	-\$122 m	-1,523
Printing & Publishing	-\$575 m	-\$344 m	-\$193 m	-1,337
Chemicals & Petroleum Refining	-\$30,657 m	-\$7,965 m	-\$4,442 m	-8,197
Rubber and Leather Products	-\$1,079 m	-\$480 m	-\$303 m	-3,470
Lumber Products & Furniture	-\$972 m	-\$380 m	-\$267 m	-4,093
Stone, Clay, & Glass Products	-\$1,157 m	-\$609 m	-\$345 m	-3,148
Primary Metal	-\$1,004 m	-\$304 m	-\$246 m	-1,763
Fabricated Metal Products	-\$2,801 m	-\$1,339 m	-\$855 m	-11,273
Machinery, Except Electrical	-\$753 m	-\$310 m	-\$239 m	-1,804
Electronic Equipment	-\$2,917 m	-\$1,560 m	-\$1,116 m	-4,172
Motor Vehicles & Equipment	-\$3,073 m	-\$1,019 m	-\$580 m	0
Instruments & Related	-\$519 m	-\$164 m	-\$145 m	-1,415
Miscellaneous	-\$573 m	-\$160 m	-\$183 m	-1,386
<b>Transportation</b>	<b>-\$3,865 m</b>	<b>-\$2,618 m</b>	<b>-\$1,791 m</b>	<b>-26,226</b>
<b>Texas, All Industries</b>	<b>-\$87,259 m</b>	<b>-\$29,341 m</b>	<b>-\$15,933 m</b>	<b>-96,677</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Notes: Monetary values given in millions of 2021 US dollars. A job-year is equivalent to one person working for one year.

## METHODOLOGY

In order to estimate the potential losses associated with a rail strike and related shutdown, The Perryman Group's US Multi-Regional Impact Assessment System and econometric models were used to measure the dynamic effects of a shutdown based on a detailed review by industry of the potential costs of a loss of rail service. The analysis accounted for each industry's level of dependence on rail service and the associated likelihood of disruption. Once the losses by detailed sectors were estimated, they were applied to each sector's measured levels of economic activity to determine a reasonable estimate of the economic losses that

would occur during a rail shutdown. The Impact Assessment System was then used to measure dynamic economic responses to the stimulus; in other words, the successive rounds of business activity foregone due to the disruptions caused by a rail shutdown were measured. The system has been in use for more than 40 years (with updates and refinements) and has been utilized on hundreds of occasions by clients ranging from large government agencies to private sector firms; it has also been peer reviewed.

**Total expenditures** (or total spending) measures the change in the dollars changing hands as a result

of the economic stimulus.

**Gross product** (or output) is production of goods and services lost in the area as a result of the hurricane; this measure is parallel to the gross domestic product numbers commonly reported by various media outlets and is a subset of total expenditures.

**Personal income** is dollars that end up in the hands of people in the area; the vast majority of this aggregate derives from the earnings of employees, but payments such as interest and rents are also included.

**Job years** are used to measure employment, being equivalent to one person working for one year.

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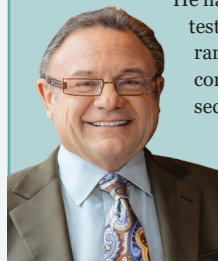
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### M. RAY PERRYMAN, PH.D.

Dr. Perryman is the President and CEO of the Perryman Group and Distinguished Professor of Economic Theory and Method at the International Institute for Advanced Studies. Over the past 40 years, Dr. Perryman has helped recruit corporations providing tens of thousands of jobs through economic development work, resolved billion-dollar legal issues, and revamped public policy through impact assessments and other studies. His firm has measured economic impacts for corporate locations and expansions involving billions in investments, and his economic forecasts are used by corporations and government agencies alike.



He has provided economic analysis and expert testimony for civil litigation across a wide range of practice areas including antitrust and competition, intellectual property disputes, securities, and commercial and complex litigation. His work combines strong expertise in economic damages calculation, asset valuation, market analysis, and statistical methods and econometrics.

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