

ground freight transportation which combines motor vehicle and rail systems where freight trains will transport the cargo over long distance, high volume rail corridors where motor vehicles will then transport the cargo from the rail terminal to its final destination.

Transport Partnership encourages shippers to use locomotives for the bulk of their transportation due to the 65% decrease in GHG emission from the combined effort of locomotives and motor vehicles.<sup>28</sup> A comparison between GHG emissions is provided in Table 3. Motor vehicle transportation generates 6.9 times the amount of carbon dioxide compared to the rail transportation mode.

Table 3. GHG Emission Factors for Transportation Modalities (g/TEU-mi).<sup>29</sup>

<b>Mode</b>	<b>CO<sub>2</sub></b>
<b>Truck</b>	1001.00
<b>Rail</b>	144.97
<b>Ship</b>	292.83

It is conceivable that granting this special permit application may result in additional business opportunities to be realized as a result of the efficiencies of transporting LNG by rail and thereby further incentivize domestic production. Such business opportunities could include end-use applications (such as power plants), export facilities, and the associated loading/unloading facilities that would accommodate such developments. The significant increase in the domestic production and export/use of LNG already underway is independent of this special permit application, making it hard to pinpoint that authorizing DOT-113C120W tank cars as an appropriate packaging to move LNG by rail would be the relevant cause of any continued increase in the production or utilization of natural gas.<sup>30</sup> Similarly, it is too speculative to reach any conclusions about whether approving this special permit would result in the development of new end-use projects, let alone the extent of any such projects' natural gas utilization or any increased production they might entail. The rail lines on which LNG-carrying DOT-113C120W tank cars would travel have largely been built already.

Additional possible indirect effects that may occur in connection with the two alternatives discussed in this draft EA are discussed in Table 4, assuming the transportation of the same quantity of LNG under each alternative.

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<sup>28</sup> Accessed via [www.epa.gov/smartway](http://www.epa.gov/smartway) on February 20, 2019.

<sup>29</sup> Accessed via [https://cms.dot.gov/sites/dot.gov/files/docs/emissions\\_analysis\\_of\\_freight.pdf](https://cms.dot.gov/sites/dot.gov/files/docs/emissions_analysis_of_freight.pdf) on February 25, 2019.

<sup>30</sup> Clements, Jude. "U.S. Liquefied Natural Gas Poised For 'Biggest Year Ever.'" *Wall Street Journal*, November 23, 2018.