the yard travel and mainline travel, respectively. These were compared against the accident frequencies for the 5-year period from 2011-2015 which were found to be 1.55×10^{-5} and 1.81×10^{-6} (accidents/train mile) for the yard travel and mainline travel, respectively. Although the 5-year data demonstrates a reduction in accident rate versus the 21-year data, the 21-year data was used throughout the analysis due to the relatively large number of data points that provide a larger confidence in the position-in-train derailment probabilities (discussed in Section 3.1.3). The results are summarized in Table 6.

Table 6. Train accident rates from FRA data.

	Statistic	2011-2015	1995-2015
Yard	Total Yard Train Miles	0.446×10^{9}	1.85×10^{9}
	Yard Accident Rate (/train mile)	1.55×10^{-5}	1.98×10^{-5}
Mainline	Total Non-Yard (Mainline) Train Miles	3.25×10^{9}	13.5×10^{9}
	Non-Yard Accident Rate (/train mile)	1.81×10^{-6}	2.47×10^{-6}

The mainline accident frequencies[24] from Table 6 were then multiplied by the total number of annual train miles estimated for each route (Table 3) to arrive at the yearly accident frequency (accidents per year). A summary of the calculated annual accident rates for each route is provided in Table 7. Again, this analysis conservatively assumes that the planned travel of ten LNG ISO's per day arrive at a single destination (in reality, the destination may change from day-to-day or the ISOs may be split and sent along more than one of the routes). Thus, the accident rate for each route is anticipated to be smaller than that assumed here leading to a conservatively high accident rate for each route. The yard accident rates were applied to the intermodal facilities assuming travel across the facility once per day.

Table 7. Calculated annual accident frequencies for the mainline portion of the 3 FECR routes.

Route	Estimated Total Annual Route Length (train miles/yr)	Accident Frequency (accident/train mile)	Calculated Annual Accident Frequency (accident/yr)
Route 1	5,475	2.47×10^{-6}	1.35×10^{-2}
Route 2	10,220	2.47×10^{-6}	2.52×10^{-2}
Route 3	132,860	2.47×10^{-6}	3.28×10^{-1}

The train accident values shown above estimate the frequency that a train accident will occur somewhere along FECR's rail line. However, a train accident doesn't necessarily lead to a

[24] Note that the terms frequency and rate are used interchangeably.