



# **MSTRS Spring Meeting**

The North American Rail Industry

---

May 11, 2023



ASSOCIATION OF  
AMERICAN RAILROADS

# The US Railroad Industry



**Interconnected, private  
180,000-mile network in  
Canada, Mexico and U.S.**



**More than \$23B privately  
invested annually.**



**6 Class I railroads operate  
over 2/3 of the nation's  
right-of-way and 95% of  
railroad freight revenue.**



**The last decade has been  
the safest ever for freight  
railroads.**

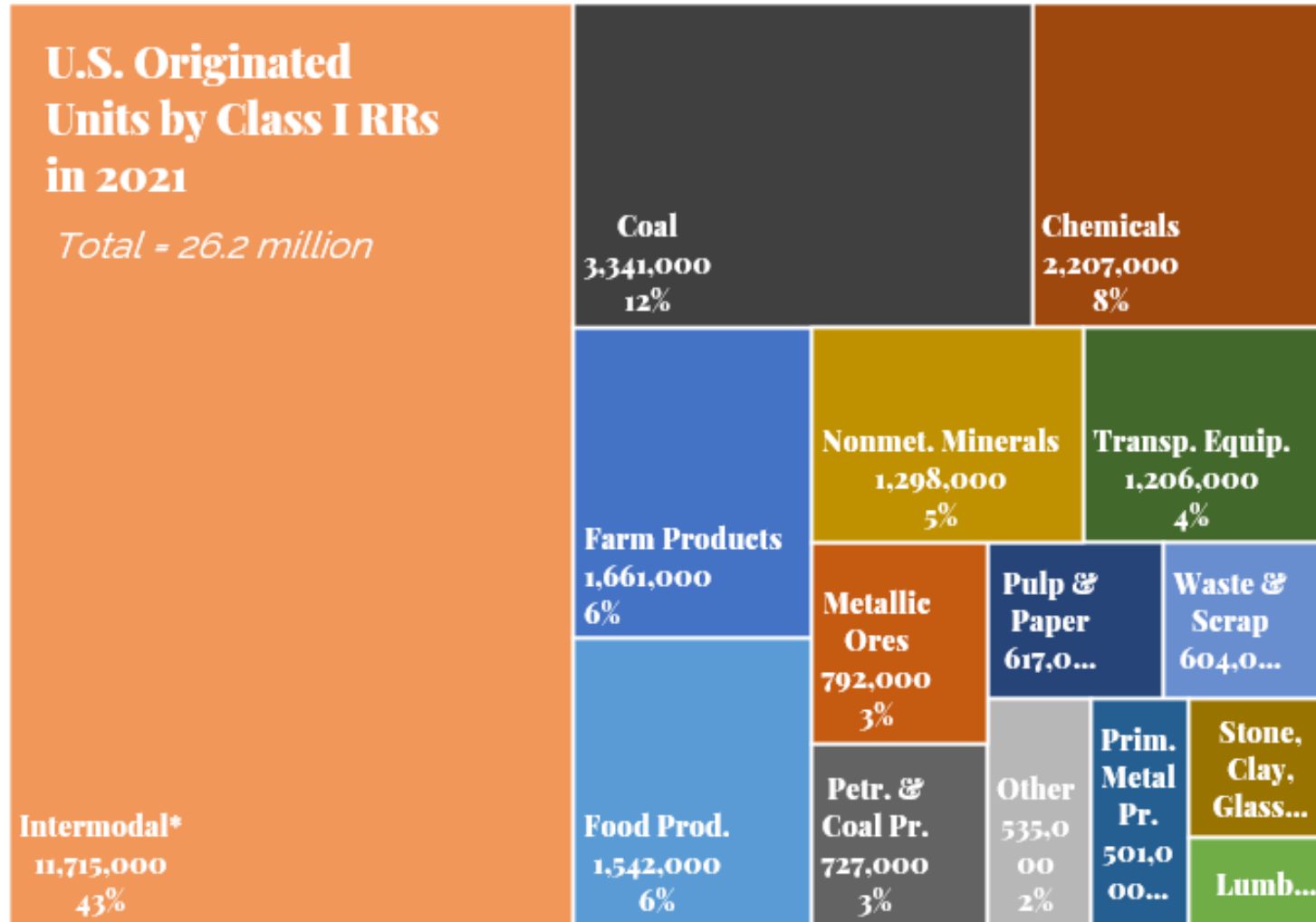


**Freight rail accounts for  
approximately 40% of  
long-distance ton-miles,  
more than any other mode  
of transportation.**



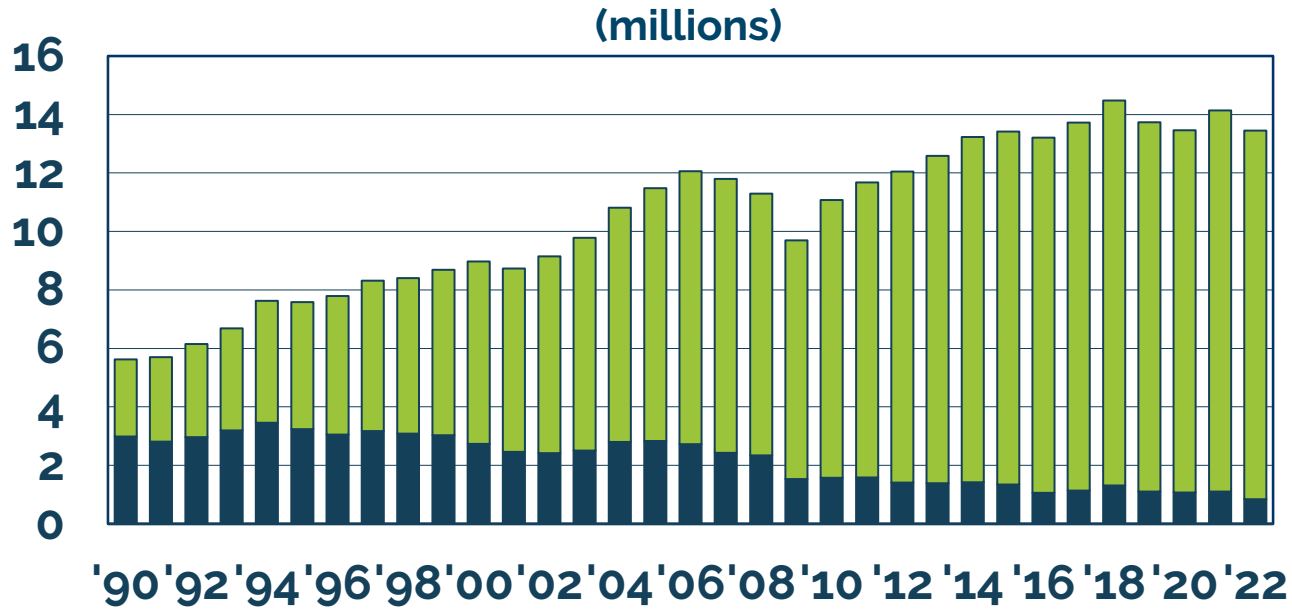
**Freight railroads are the  
most fuel-efficient way  
to move freight over land.**

# Railroads Carry Just About Everything



\* Some intermodal is included in other commodities. Source: AAR Freight Commodity Statistics.

# Rapid Intermodal Growth



Container

Trailers

Source: AAR Weekly Railroad Traffic

# Part of the Solution to Climate Change

**On average, a train can move one ton of freight close to 500 miles on one gallon of fuel.**



Moving freight by train instead of truck reduces GHG emissions by up to 75% on average.

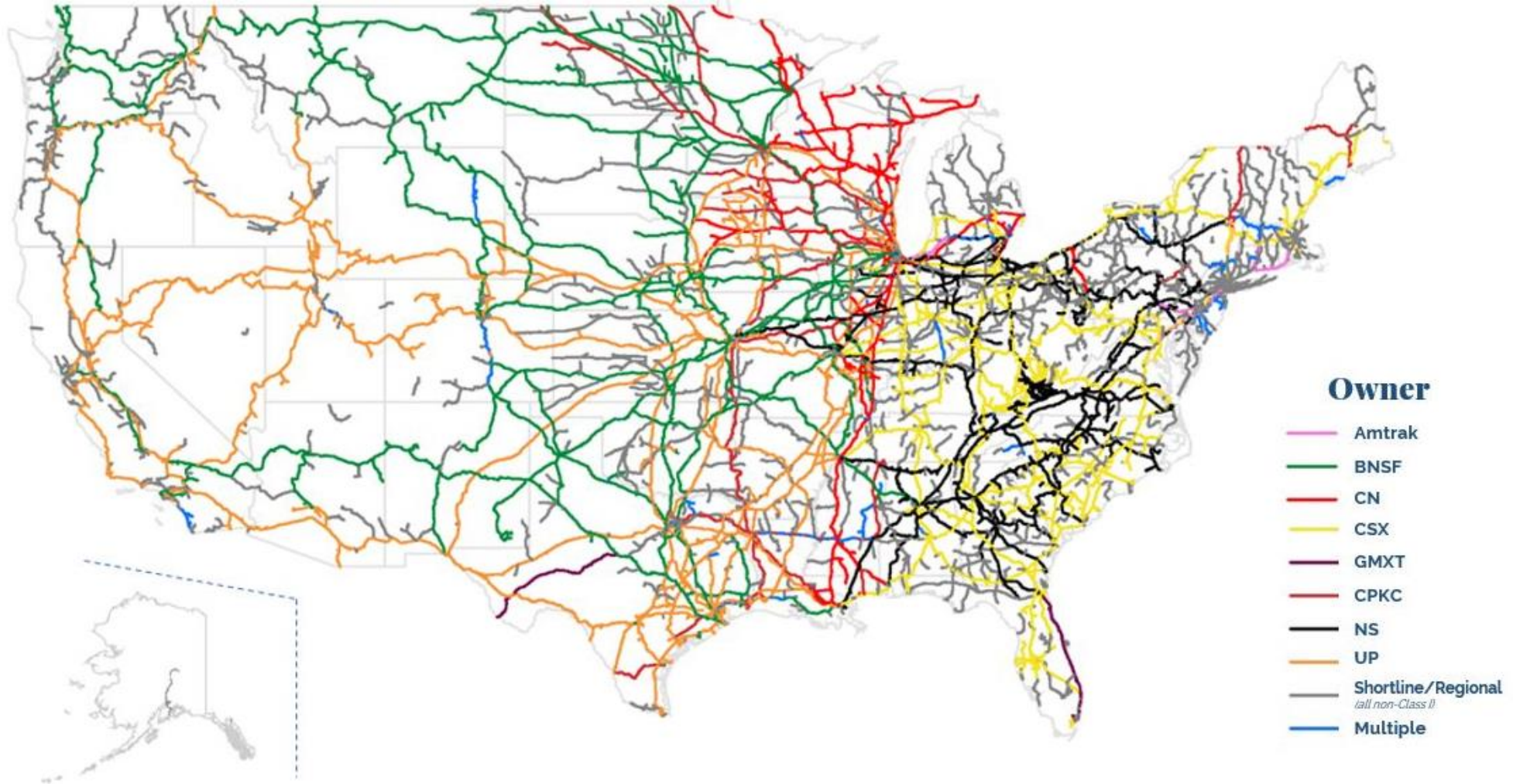


One train can carry the freight of hundreds of trucks, which reduces highway congestion.



Freight railroads are 3-4 times more fuel efficient than trucks, on average.

# The Freight Rail Network



# Locomotive Fleet Facts

- Class I railroads owned 23,184 locomotives in 2022.
- Thousands of locomotives in storage
- 45% of locomotives built before 2000.
- Avg. of less than 10 new locomotives added to US railroad fleet over last two years.
- Class I railroads interchange locomotives.

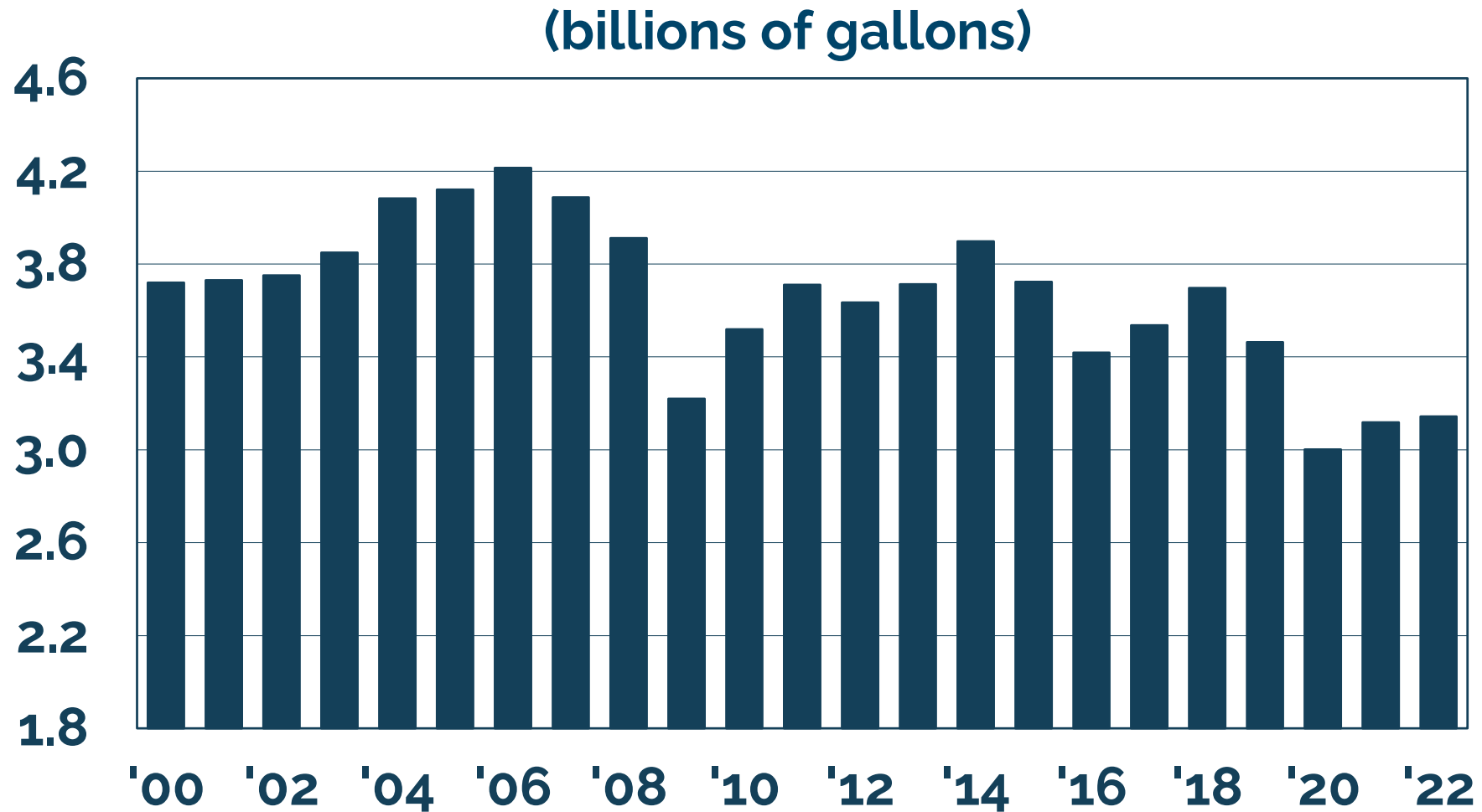


# Class I Railroads Interchange Locomotives



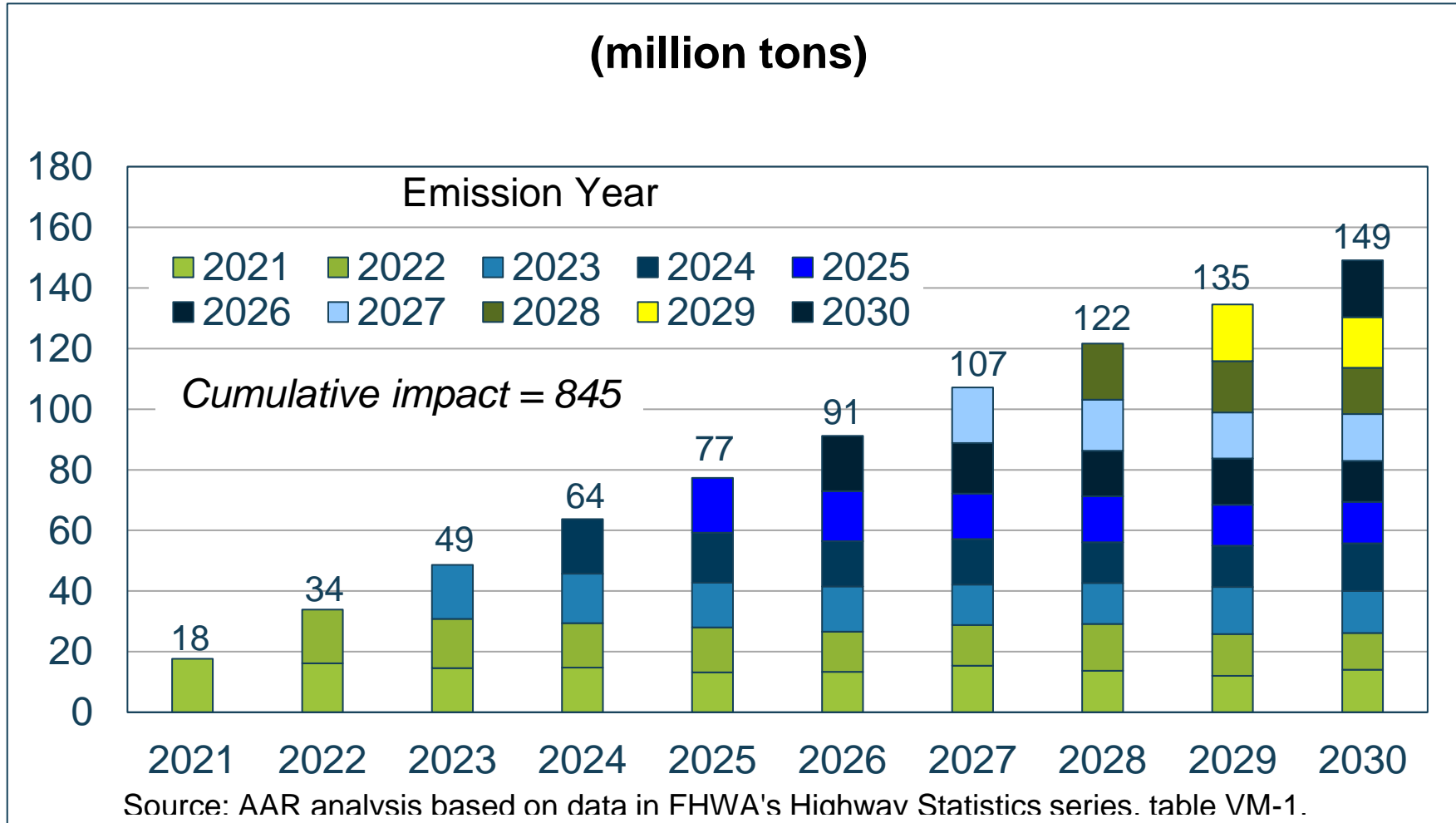


# Freight Rail Fuel Consumption



Figures are for Class I Railroads.  
Source: Association of American Railroads

# Cumulative Carbon Impact of Diverting 10% of Combination Truck Traffic to Rail

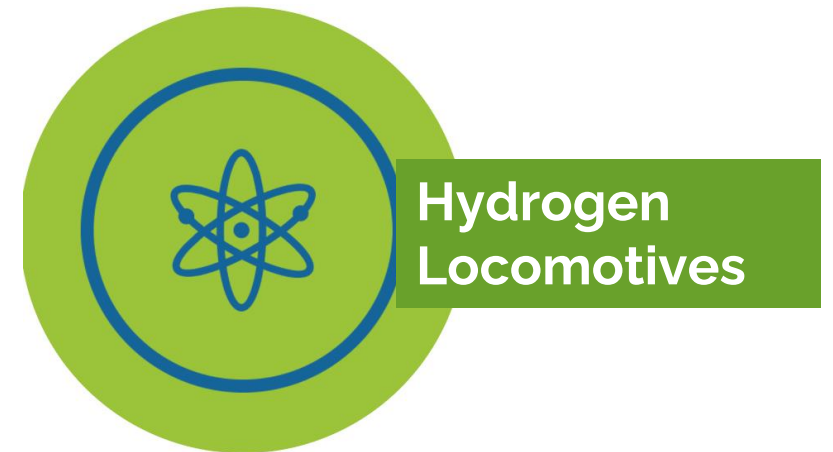


# Carbon Reduction

- **All 6 Class I railroads in North America, Amtrak, and many Class III railroads have committed to near-term emissions reduction targets aligned with a well-below 2°C scenario.** *All Class I railroads have made formal commitments to carbon reduction through the Science Based Targets Initiative (SBTi). Many have made public commitments to shareholders and investors.*
- **Customers are increasingly focused on emissions reductions.** *Scope 3 emissions reductions play a critical role in today's supply chain*
- **Diesel fuel usage in locomotives is a primary driver for rail emissions.** *Well-to-wheel emissions associated with locomotive fuel account for 95% of our total emissions footprint.*
- **Reducing emissions from our locomotives is key to achieving meaningful emissions reductions.**

# Ongoing Decarbonization Initiatives

- **Two tracks:** Railyards and locomotives
- The rail industry has a long history of working to further reduce fuel consumption, and therefore carbon emissions.
- Recent efforts include prototype testing of various alternative fuels in locomotives and transitioning to low- or zero-emission equipment in railyards.
- New locomotive technologies require extensive testing before being “commercially viable”



# Locomotive Research Initiatives

- **Biodiesel and renewable diesel will play an important role in Class I railroads meeting their carbon reduction goals. Challenges include:**
  - Limited supply and availability of alternative fuels in certain parts of the country.
  - Cost-competitiveness when compared to standard diesel.
  - OEM limits on blend rates for engine warranties.
- **Biodiesel & Renewable Diesel Use in Existing Locomotives**
  - Progress Rail approval of B-20 and 100% renewable diesel in its locomotives; May reduce carbon emissions by 20-25%.
  - AAR's members are partnering with Progress Rail and Wabtec to test different blends of biodiesel and renewable diesel in various engines.

# Questions?



AAR.ORG



BI-WEEKLY NEWSLETTER  
AAR.ORG/SIGNAL



@AAR\_FREIGHTRAIL



FREIGHTRAIL



ASSOCIATION OF AMERICAN RAILROADS



ASSOCIATION OF  
AMERICAN RAILROADS

**Theresa Romanosky**

Assistant General Counsel

Association of American Railroads

tromanosky@aar.org