

Advancing Goods Movement through the Inland Empire



Managing Growth of the Goods Movement System

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About BNSF Railway

- Headquartered in Fort Worth, Texas
- Operates in 28 states and two Canadian provinces
- Employs more than 40,000 people nationwide, with major Southern California operations in Los Angeles, San Bernardino and Barstow

Why rail?

Rail's Environmental Value

Reduced
Highway
Congestion

Fuel
Efficiency

Fewer
Emissions

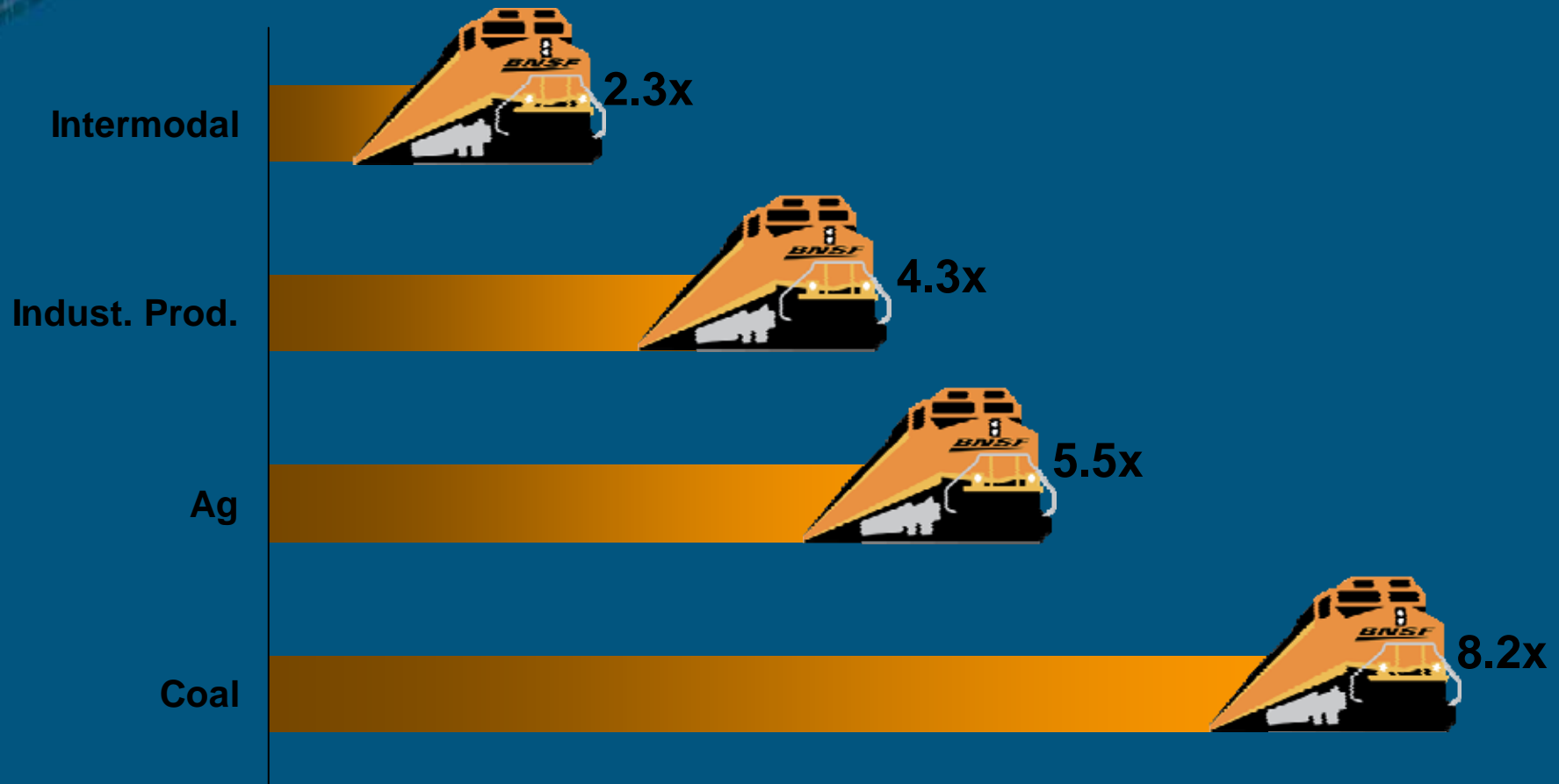


Efficiencies of Rail

- **Capacity:** 1 double-stack train can equal the volume of approximately 280 trucks
- **Fuel Efficiency:** Trains are 2-8 times more fuel efficient than trucks handling equivalent loads
- **NOx Emissions:** Trains are 3 times cleaner than trucks handling equivalent loads

From an environmental, economic, congestion and safety perspective, rail is the best way to move goods – today and in the future

Rail is 2-8 times more fuel efficient

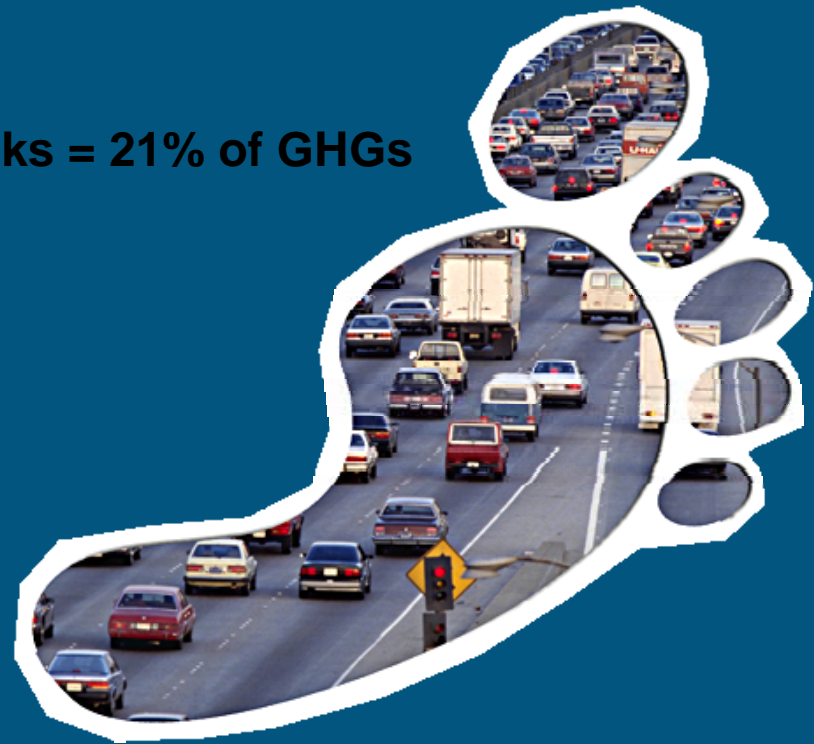


*Based on a 1,500 mile truck haul

Rail emits a fraction of total U.S. green house gas emissions

Trucks = 21% of GHGs

Rail = 2.6% of GHGs

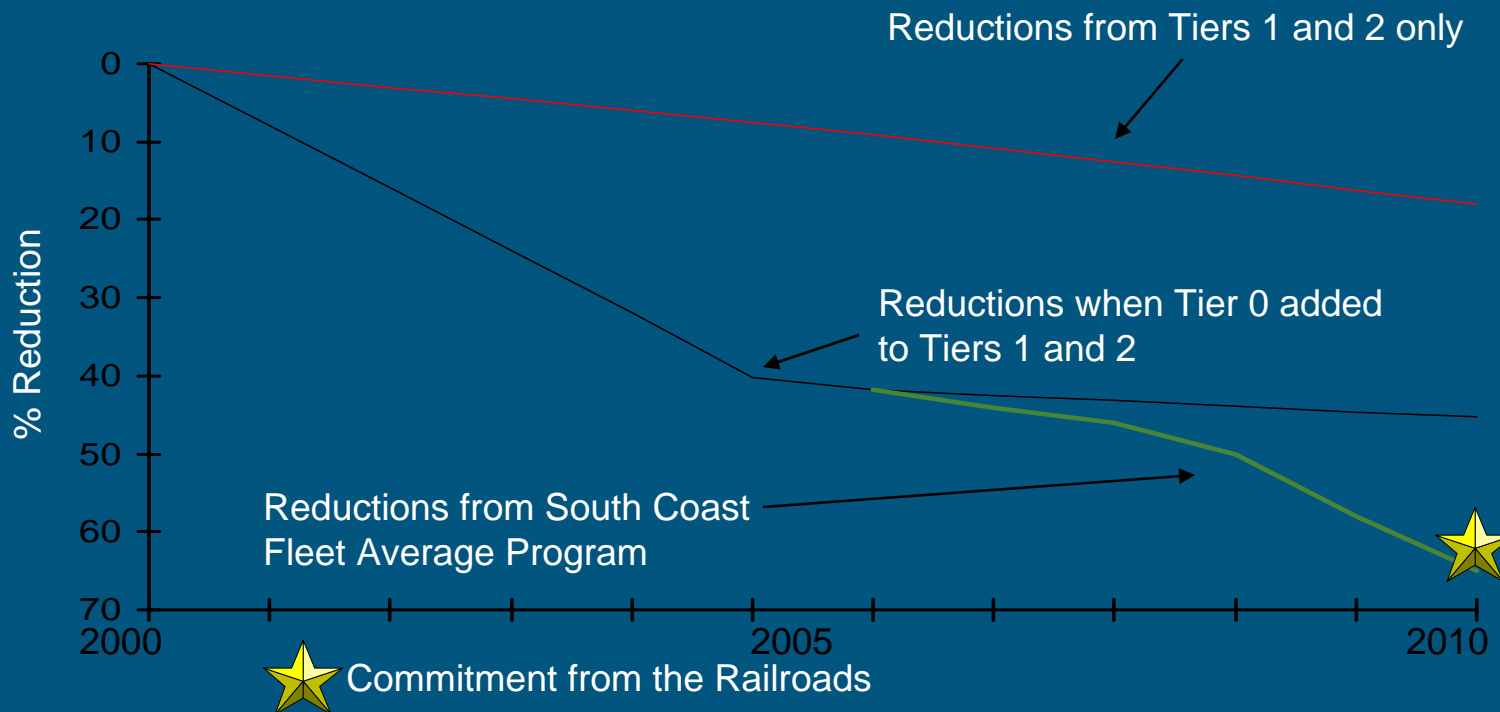


- In 2008, BNSF moved 4.7 million containers and trailers, reducing GHG emissions by more than 7 million metric tons
- Rail industry moved 11.5 million containers and trailers, reducing GHG emissions by more than 17.2 million metric tons

Air Quality Commitments

- **1998 – Developed enforceable MOU with ARB and EPA to achieve a 67% reduction in emissions from line haul locomotives in Southern California by 2010**
- **2001 – Railroads invest \$5 million for particulate trap research**
- **2005 – Supplemental MOU with ARB to accelerate PM reductions an estimated 20% in and around rail yards**
- **Ongoing – Funding and demonstrating new locomotive technologies:**
 - ✓ Spark-ignited LNG technologies for switch engines
 - ✓ Truck engine “Gen Set” technologies for switch engines
 - ✓ Hybrid locomotives
 - ✓ Green Goat switch engines
- **2008 – EPA sets new Tier III and IV standards for locomotives**

1998 – Developed enforceable MOU with CARB to achieve a 67% reduction in emissions from line haul locomotives in Southern California by 2010



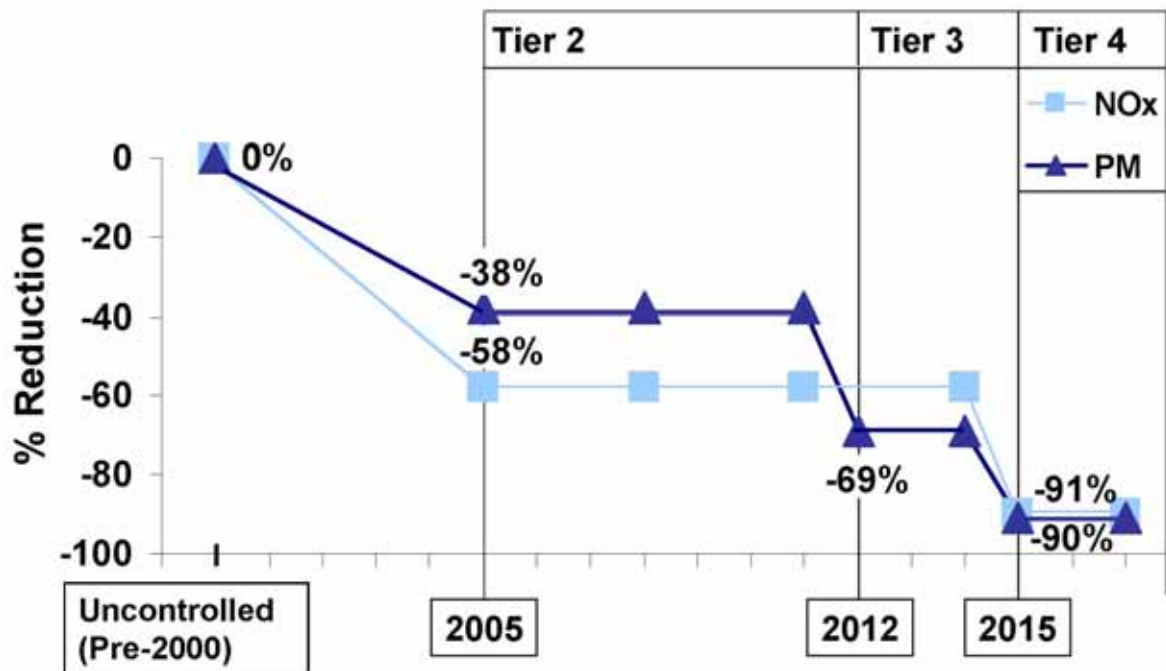


2005 – Supplemental MOU with ARB to accelerate PM reductions an estimated 20% in and around rail yards

- **At least 80% of California fueling will be low-sulfur**
- **At least 99% of all locomotives will comply with stringent smoke regulations – much higher than any other mobile source**
- **Health risk assessments carried out at the 16 major rail yards**
- **California-based locomotives equipped with idling-reduction devices**
- **Established a system to enable local residents to report locomotives that do not comply with smoke limits or idling restrictions.**

EPA Locomotive Standards

EPA Line-haul Locomotive Standards (% Reduction from Uncontrolled Levels)



Prepared by California Environmental Associates

San Bernardino Summary

