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# SAFETEA-LU, CMAQ, and Diesel Retrofits

**The what, why, and how**

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# What does SAFETEA-LU say about Diesel Retrofits?

- **Section 1808 - Addition to CMAQ-Eligible Projects\*:**
  - Specifies the eligibility of advanced truck stop electrification, interoperable emergency communications equipment, and transportation systems management and operations projects that mitigate congestion and improve air quality.
  - Calls for priority to be given to funding diesel retrofit projects and other cost-effective CMAQ strategies that improve air quality.



# Why were these added?

- According to a 2005 study conducted by EPA\*:
  - Freight transportation accounts for approximately half of mobile source NO<sub>x</sub> emissions and 27 percent of all NO<sub>x</sub> emissions at the national level.
  - Freight transportation accounts for 36 percent of U.S. mobile source PM-10 emissions.



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# How does EPA expect us to address these issues?

- Technological strategies focused on pollutant emission reductions are often summarized as the “Five Rs” - Retrofit, Repower, Refuel (with alternative fuels), Replace, and Repair/Rebuild.\*



# More information\*?

- A **retrofit** typically involves the addition of an after-treatment device to remove emissions from the engine exhaust.
- **Repowering** involves replacing an existing engine with a new engine.
- **Replacement** involves retiring older, higher polluting equipment from service to be replaced with newer equipment that meets more stringent emission standards.
- **Repairing** and **rebuilding** offer the opportunity to reduce freight emissions during regular engine service intervals through routine maintenance or major engine overhauls.



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# Are there any Examples?

- EPA: National Clean Diesel Campaign
    - Clean School Bus USA
    - SmartWay Transport Program
  - Sacramento Emergency Clean Air and Transportation (SECAT) program
    - Created a partnership between local government, clean air professionals, local businesses, & manufacturers
    - Pays to retrofit existing engines with newer, cleaner-burning ones, or contribute to the cost of a newer, cleaner vehicle.
    - Funded through state budget and CMAQ
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# Examples (continued)

- New Haven, CT Clean School Bus Program
    - Buses have been adapted to use a cleaner fuel additive in conjunction with ultra-low sulfur diesel fuel.
    - Compliments school bus anti-idling policy.
  - New Jersey State Diesel Retrofit Program
    - Will allow an existing state fund to be used for funding the purchase of retrofit equipment for diesel vehicles operated in the state.
    - An estimated \$160 million will be allocated over ten years to retrofit over 30,000 of the state's transit buses, school buses, and publicly-owned trucks with emission control technology.
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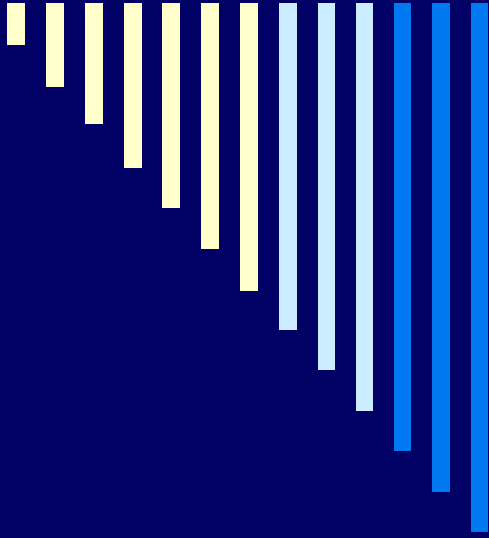
# What about truck stop electrification?

- According to US EPA, “Long-duration truck and locomotive engine idling has a significant impact on our environment and economy\*:
  - Annually, over 1 billion gallons of diesel fuel consumed
  - Annually, 11 million tons of carbon dioxide, 200,000 tons of oxides of nitrogen, and 5,000 tons of particulate matter emitted
  - Increased engine maintenance costs and shortened engine life
  - Impaired driver rest and health
  - Elevated noise levels.”



# Are there examples of truck stop electrification?

- ❑ Hunts Point, New York Truck Stop Electrification Project: Conduction of a comprehensive assessment of the benefits of truck stop electrification
  - ❑ Gary, Indiana Truck Stop Electrification Project: Project to deploy a truck stop electrification project to reduce emissions and noise that impact an environmental justice community, while conserving fuel for private fleets using the technology.
  - ❑ Chicago Locomotive Idle Reduction Project: City of Chicago Department of Environment project to evaluate the emission and noise reductions and fuel savings of a Class I railroad idle reduction technology.
  - ❑ Knoxville, Tennessee Truck Stop Electrification Project: Funding for Truck Stop Electrification units has been provided by both Knox and Jefferson Counties to match CMAQ grants.
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Questions?

