

Congestion Mitigation and Air Quality Improvement (CMAQ) Program



U.S. Department of Transportation
Federal Highway Administration



Intermodal Freight Transportation

In an intermodal transportation network, trains, trucks, ships, and aircraft are connected in a seamless system that is efficient and flexible, and meets the needs of the nation's consumers, carriers, and shippers. An intermodal system includes both origins and destinations (e.g. ports, railheads and warehouses) and the links between them (e.g. roads or rail). Intermodal describes an approach to planning, building, and operating the transportation system that emphasizes optimal use of transportation resources and connections between modes. Intermodal partnerships offer environmental benefits and enhanced mobility by shifting traffic from congested highways to rail or water.

CMAQ Funds in the Intermodal Freight Sector

Intermodal operations can increase transportation efficiency, reduce emissions, and improve energy efficiency. A train loaded with containers can carry the same load as dozens of heavy-duty diesel trucks. This, in turn, can contribute to reduced long-haul truck traffic on congested highways, reduced damage to highways from heavy trucks, and improved air quality.

There are many challenges in developing an efficient intermodal transportation system. Solutions to issues like inadequate infrastructure or operational inefficiencies may be eligible for CMAQ funds. Funding under CMAQ has been used to improve intermodal freight facilities and operations, where air quality benefits can be shown. Capital improvements and up to five years of operating assistance are appropriate for CMAQ funding if emission reductions can be demonstrated.

Eligible Intermodal Freight Projects

- New, large, well-located intermodal terminals, better designed access roads; and bridge improvements that address inadequate infrastructure
- Routes, bridges, and tunnels serving intermodal rail and port terminals improvements that address access issues
- Construction or relocation of rail routes, extension of double-stack rail service, improved management of intermodal operations, and improved coordination among modes to alleviate freight operational inefficiencies
- Treatment of tailpipe exhaust or application of advanced engine technologies, such as diesel engine retrofits, if they reduce vehicle emissions.



Examples of Successful Intermodal Freight Projects

Chicago, IL: Approximately \$2.1 million in CMAQ funds were used to improve access in the west end of the Bensenville Rail Yard. The project includes a new track, interlocking switches and signals to raise train speeds and reduce rail-roadway conflicts at grade crossings.

- *Estimated emission reductions: 54 kg/day VOC and 48 kg/day NO_x*

Portland, OR: The Columbia Slough Intermodal Expansion Bridge was constructed for railroads to directly access a deep-water port facility, eliminating truck trips. The total cost of the project was \$6.1 million, comprised of \$1 million in CMAQ funds, \$2.1 million in demonstration funds, and \$3 million in private funds.

- *Estimated emission reductions: 52 kg/day VOC, 241 kg/day CO, and 364 kg/day NO_x*

New York, NY: CMAQ funds of \$1.9 million were matched to purchase the Red Hook Container Barge to ship freight containers via the Hudson River rather than on the highways, removing 54,000 trucks trips from New York and New Jersey streets annually.

- *Estimated emission reductions: 12 kg/day VOC, 48 kg/day CO, and 53 kg/day NO_x*

Cincinnati, OH: A new rail line was constructed to reroute train traffic and relieve freight train congestion experienced by 85 percent of trains in the corridor. The project reduces congestion at truck/rail grade crossings and shifts truck freight to rail. The total cost of the project was \$15 million, comprised of \$5 million in CMAQ funds and \$10 million in private funds.

- *Estimated emission reductions: 26 kg/day VOC, 130 kg/day CO, and 395 kg/day NO_x*

Waterville ME: A transportation company constructed the Waterville Intermodal Facility, a truck-to-rail transfer facility, including storage areas, staging and other facilities. The transfer facility is located near an interstate highway, allowing trailers and containers of central Maine products to move via rail, reducing heavy truck traffic and diesel emissions. The total project cost was \$3 million, including \$1.2 million in CMAQ funds.

- *Estimated emission reductions: 28 kg/day VOC and 6.3 kg/day NO_x*



For more information, please contact:

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