

Columbia Slough Intermodal Expansion Bridge, Portland, OR: This 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. The estimated truck emissions reductions were 52 kg/day VOC, 241 kg/day CO, and 364 kg/day NOx.

Red Hook Container Barge, New York, NY: CMAQ funds of \$1.9 million were matched in a 50:50 ratio to purchase a barge to ship freight containers via the Hudson River rather than on the highways, removing 54,000 truck trips from New York and New Jersey streets annually. The estimated emissions reductions were 12 kg/day VOC, 48 kg/day CO, and 53 kg/day NOx.

Third Rail Line, 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. The estimated truck emissions reductions were 26 kg/day VOC, 130 kg/day CO, and 395 kg/day NOx.

Waterville Intermodal Facility, Waterville ME: A transportation company constructed an intermodal 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. The estimated emissions reductions were 28 kg/day VOC and 6.3 kg/day NOx.



Another Maine Intermodal Freight Transfer Facility celebrates its 75,000th container.

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It all adds up to cleaner air

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CMAQ and Intermodal Freight Transportation



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What Is CMAQ?

The Congestion Mitigation and Air Quality (CMAQ) Improvement Program provides a flexible funding source for state and local governments to fund transportation projects and programs to help meet the requirements of the Clean Air Act (CAA) and its amendments. CMAQ money supports transportation projects that reduce mobile source emissions in areas designated by the U.S. Environmental Protection Agency (EPA) as in nonattainment or maintenance of national ambient air quality standards. Eligible activities include travel demand management strategies, idle reduction projects, and intermodal freight transportation improvements, among others.

What Are the Key CMAQ Funding Requirements?

CMAQ funds must be invested in a state's nonattainment or maintenance area(s). The money must be spent on projects that reduce ozone (O₃) precursors—volatile organic compounds (VOCs) and nitrogen oxides (NO_x)—carbon monoxide (CO), or particulate matter (PM) from transportation sources. States without nonattainment or maintenance areas may use their CMAQ funds for projects eligible under the CMAQ or Surface Transportation Programs anywhere in the state. All CMAQ projects must come from a transportation plan and Transportation Improvement Program (TIP). The state transportation department is responsible for distributing CMAQ funds.

All projects must conform to established CMAQ guidance. The federal share for most CMAQ-eligible projects is 80 percent. The CMAQ program operates on a reimbursable basis, so funds are not provided until work is completed.

What Is Intermodal Freight Transportation?

Intermodal freight transportation is the movement of freight using more than one mode of travel where all parts of the transportation network are effectively connected and coordinated. An intermodal system includes both origins and destinations (for example, ports, railheads, and warehouses), as well as the links between them (such as roads or rail). Intermodalism describes an approach to planning, building, and operating the transportation system that emphasizes optimal use of transportation resources and connections between modes. 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.



What Are the Benefits of Intermodalism?

New intermodal partnerships among rail, truck, and ocean carriers offer enhanced mobility by shifting traffic from congested highways to the private sector rail or marine shipping network, and environmental benefits by employing the cleanest possible technologies that improve air quality.

How Can CMAQ Funds Be Used in the Intermodal Freight Sector?

Funding under CMAQ has been used to improve efficiency of truck, rail, and marine operations, as well as intermodal freight facilities, where air quality benefits can be shown. 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. Capital improvements that increase the efficiency of freight movement between truck and rail, for example, as well as up to three years of operating assistance for these types of projects, are appropriate for CMAQ funding if emissions reductions can be demonstrated.



What Intermodal Projects Are Eligible for CMAQ Funds?

- Projects that address the problem of *inadequate infrastructure*, such as new, large, well-located intermodal terminals; better designed access roads; and bridge improvements to assure adequate clearances and weight capacities for truck and double-stack rail.
- Projects that address *congestion* issues, such as improvements to access routes, bridges, and tunnels serving intermodal rail and port terminals. At-grade road and rail crossings near port terminals can create congestion and emissions hot spots. Therefore, grade-separation projects may be eligible for CMAQ funding.

- Projects that alleviate freight *operational inefficiencies*, including the construction or re-location of rail routes, the extension of double-stack rail service, improved management of intermodal operations, and improved coordination among modes.

- Projects that reduce emissions from vehicles through treatment of tailpipe exhaust or application of advanced engine technologies, such as *diesel engine retrofits*, may qualify for CMAQ funding. Port and terminal operations can be pollution hot spots due to the operation of older diesel powered trucks and locomotives, and extensive idling. There are a growing number of active diesel retrofit programs around the country.

Examples of Successful Intermodal Projects

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. Some intermodal projects supported by CMAQ include:

Bensenville Rail Yard Improvements, Chicago, IL: Approximately \$2.1 million in CMAQ funds were used to improve access in the west end of the yard. The project includes a new track, interlocking switches, and signals to raise train speeds and reduce rail-roadway conflicts at grade crossings. The estimated emissions reductions were 54 kg/day VOC and 48 kg/day NO_x.