

Air quality and health impact considerations

Emissions of air pollutants and greenhouse gases from diesel-powered delivery vans and tractor-trailers represent the most substantial environmental impact from warehouse facilities. With mounting evidence that diesel exhaust poses major health hazards, reducing diesel pollution has become a public priority, and needs careful consideration of where intensive diesel sources of pollution should be located and mitigated. The World Health Organization (WHO) classifies diesel exhaust as carcinogenic to humans, and abundant research has shown that its components, which include nitrogen oxides and particulate matter, are harmful to human health even at low concentrations and through short-term exposures. Diesel trucks visiting warehouses emit both nitrogen compounds (a primary precursor to smog formation and a significant factor in the development of respiratory problems like asthma, bronchitis, and lung irritation) and diesel particulate matter (a subset of fine particulate matter that is smaller than 2.5 micrometers and a contributor to cancer, heart disease, respiratory illnesses, and premature death).

On December 20, 2021, the New Jersey Department of Environmental Protection (NJDEP) took a major step toward reducing exposure to diesel pollution by adopting the Advanced Clean Trucks (ACT) rule, which provides a regulatory path for electrifying everything from delivery vans to tractor-trailers in the state. The ACT rule requires truck manufacturers to sell pollution-free zero-emission trucks (instead of diesel and gasoline vehicles) to New Jersey beginning in 2025 and requires 40-75 percent new zero-emission truck sales by 2035. The rule requires that electric truck sales ramp up 5% each year until they comprise 55% of all “Class 2b” vehicles (pickups and vans) sold in 2035. By the same year, 75% of “Class 4-8” trucks (all buses and heavy-duty trucks) sold must be electrics.

New Jersey is one of several states to have adopted California’s ACT rule in recent years, following major industry advances in the availability of zero-emissions trucks, which cause the difference between lifetime costs for electric and diesel trucks to decline every year. Today, over 100 models of electric trucks and buses are on the market, including delivery vehicles, tractor trucks, shuttles, and charter buses, among others. Businesses now have the option to purchase electric trucks and buses that have significantly lower and more predictable fuel and maintenance costs.

Avoid the disproportionate location of large warehouse distribution facilities in Overburdened Communities, Urban Cores and Clusters that serve a regional market and are characterized by a preponderance of diesel-powered tractor-trailers, particularly where air quality is categorized as chronically ‘Unhealthy’ by [USEPA’s Air Quality Index \(AQI\)](#), or as so demonstrated through information and data available at NJDEP. In all cases, environmental justice, equity, and fair labor practices should be guiding principles and actionable, enforceable elements in warehouse policymaking and siting decisions.

State Planning Commission Policy

In support of the ACT rule, [P.L. 2021, c. 171](#), requires applicants to meet minimum requirements for electrical infrastructure to support future EV charging (i.e., Electric Vehicle Supply/Service Equipment (EVSE) and Make-Ready parking spaces. The law, signed by Governor Murphy in July 2021, requires Electric Vehicle Supply/Service Equipment (EVSE) and Make-Ready parking spaces to be designated as a permitted accessory use in all zoning or use districts in New Jersey. The law also establishes installation and parking requirements for EVSE and Make-Ready parking spaces in local communities.

Overburdened Communities

In addition to statewide efforts to electrify the truck fleet, under New Jersey's [Environmental Justice Law](#) (N.J.S.A. 13:1D-157, also see [NJDEP Office of Environmental Justice](#)), signed into law by Governor Murphy on September 18, 2020, the NJDEP now maintains a list of [overburdened communities](#) which are located within 331 different municipalities. Pursuant to the Law, "overburdened communities" are defined as Census tracts with low-income, minority, or non- English-speaking populations categorized by specified thresholds. As part of the Law, the NJDEP is charged with ensuring that state agency actions do not result in the siting of additional noxious land uses in these neighborhoods and requires it to evaluate the environmental and public health impacts of certain specified facilities on overburdened communities when reviewing specific types of permit applications.

Warehouse facilities may be appropriate in Overburdened Communities, Urban Cores and Clusters where a project advances significant remediation of a contaminated and blighted site, and provides important local benefits in job creation, ratables, economic development, performance standards and amenities (e.g., utilizes a high percentage of electric semi-trucks and/or providing congestion bypasses for local through movement of trucks). Acceptable redevelopment activities are those that substantially mitigate and avoid creating additional burden, while meaningfully correcting current and past harm on environmental justice communities.

State Planning Commission Policy

While warehouses are not included in the list of eight types of facilities specified under the Law (a warehouse is not in and of itself a producer of pollution), there is no denying that warehouse operations serve to increase truck traffic volume. This increased traffic volume increases mobile sources of air pollution and greenhouse gas emissions when they are located near communities already disproportionately impacted by environmental harms and risks. Recognizing these and other public health stressors, municipalities with overburdened communities should, at a minimum, consider zoning changes as part of a Master Plan reexamination process, to exclude certain types of distribution warehouse facilities (e.g., above 75,000 or 100,000 sq. ft., including those above three stories). Specific attention should be paid when the use causes a preponderance of tractor-trailers, in areas where air quality is already categorized as chronically 'Unhealthy' by [USEPA's Air Quality Index \(AQI\)](#), or as so demonstrated through information and data available at NJDEP or in areas proximate to sensitive receptors.

As the primary public health concern with the siting of warehouse facilities is diesel truck emissions, zoning, among other tools such as overlay zoning, conditional use requirements, redevelopment plans/redeveloper agreements, and enhanced site design/performance standards, could further clarify pollution reduction and mitigation standards, and instances where certain types or intensities of warehouse uses would be permissible. For example, getting a warehouse user to utilize a certain percentage of electric vehicles ahead of ACT Rule's phased implementation could significantly advance local efforts to reduce GHG emissions and air pollution. Such mitigation, among other locally desired measures, could help build support and acceptance of a warehouse project that could provide important local benefits in job creation, rates, economic development, and environmental remediation (e.g., redevelopment of a contaminated site), which are critically needed in overburdened communities.