

## Municipal Mitigation Best Practices

Examples of best practices for siting, design, and operation of warehouse facilities include:

- Siting largescale warehouse facilities as close as possible to rail, national highway networks, and major arterial roads, which are designed (along wide lanes, gentle curves, long forward sightlines, and infrequent access points) to move large volumes of traffic at high speeds that accommodates vehicles and volumes of all sizes.
- Siting largescale warehouse facilities so that their property lines are between 500 and 1,000 feet from the property lines of the nearest sensitive receptors, (e.g., homes, schools, daycare centers, places of worship, hospitals, community centers, and parks).
- Creating physical, structural, and/or vegetative buffers that adequately prevent or substantially reduce noise and pollutant dispersal between warehouses and any areas where sensitive receptors are likely to be present.
- Providing adequate areas for on-site parking, on-site queuing, and truck check-in that prevent trucks and other vehicles from parking or idling on public streets.
- Placing facility entry and exit points from the public street away from sensitive receptors.
- Locating warehouse dock doors and other onsite areas with significant truck traffic and noise away from sensitive receptors.
- Screening dock doors and onsite areas with significant truck traffic with physical, structural, and/or vegetative barriers that adequately prevent or substantially reduce noise and other pollutant dispersals from the facility towards sensitive receptors.
- Posting signs clearly showing the designated entry and exit points from the public street for trucks and service vehicles.
- Posting signs indicating that all parking and maintenance of trucks must be conducted within designated on-site areas and not within the surrounding community or public streets.
- Ensuring the site plan provides safe truck rest, amenity, and service areas, so drivers do not instead find other offsite areas to park that create sanitary and public health and safety nuisances for drivers, property owners, and the general public.
- Requiring warehouse distribution centers to provide signage or flyers identifying where food, lodging, and entertainment can be found, when it is not available on-site.
- Providing for overnight parking within the warehouse distribution center.
- Providing transportation/shuttle service and/or links to transit if a large number of workers are anticipated to commute from outside areas and/or comprise low-wage workers.
- Site design shall allow for trucks to check-in within the facility area to prevent queuing of trucks outside of the facility.
- Establishing performance standards at or above state requirements for airborne emissions, noise, glare, vibrations, traffic, and Complete and Green Streets.
- Installing climate control in the warehouse facility to promote worker well-being.
- Installing air filtration in the warehouse facility to promote worker well-being.

- Take into account the configuration of existing distribution centers and avoid locating residences and other new sensitive land uses near the entry and exit points.
- Design warehouse/distribution center so that interior vehicular circulation shall be located away from residential uses or any other sensitive receptors.
- Creating a fund that can be used to mitigate impacts on affected residents, schools, places of worship, and other community institutions by retrofitting their property. For example, retaining a contractor to retrofit/install HVAC and/or air filtration systems, doors, dual-paned windows, and sound- and vibration-deadening insulation and curtains.
- Sweeping surrounding streets daily during construction to remove any construction-related debris and dirt.
- Directing all lighting at the facility into the interior of the site.
- Using full cut-off light shields and/or anti-glare lighting.
- Using cool pavement to reduce heat island effects.
- Providing meal options onsite or shuttles between the facility and nearby meal destinations.
- Posting signs at every truck exit driveway providing directional information to the truck route.

### **Noise Impacts Analysis and Mitigation**

The noise associated with logistics facilities can be among their most intrusive impacts on nearby sensitive receptors such as residential areas, schools, parks, and other places where pedestrians, groups, and people are found. Various sources, such as unloading activity, diesel truck movement, and rooftop air conditioning units, **can contribute to substantial noise pollution** that can cause hearing damage after prolonged exposure. These impacts are exacerbated by logistics facilities' sometimes 24-hour, seven-days-per-week operation. Construction noise is often even greater than operational noise, so if a project site is near sensitive receptors, developers and lead agencies should adopt measures to reduce the noise generated by both construction and operation activities.

### **Examples of best practices when studying noise impacts include:**

- Preparing a noise impact analysis that considers all reasonably foreseeable project noise impacts, including to nearby sensitive receptors. All reasonably foreseeable project noise impacts encompass noise from both construction and operations, including stationary, on-site, and off-site noise sources.
- Adopting a lower significance threshold for incremental noise increases when baseline noise already exceeds total noise significance thresholds, to account for the cumulative impact of additional noise and the fact that, as noise moves up the decibel scale, each decibel increase is a progressively greater increase in sound pressure than the last. For example, 70 decibels is ten times more sound pressure than 60 decibels, and 100 times more pressure than 50 decibels.

**Examples of measures to mitigate noise impacts include:**

- Constructing physical, structural, or vegetative noise barriers on and/or off the project site.
- Locating or parking all stationary construction equipment as far from sensitive receptors as possible and directing emitted noise away from sensitive receptors.
- Verifying that construction equipment has properly operating and maintained mufflers.
- Requiring all combustion-powered construction equipment to be surrounded by a noise protection barrier.
- Limiting operations to daytime hours on weekdays.
- Paving roads where truck traffic is anticipated with low noise asphalt.
- Orienting any public address systems onsite away from sensitive receptors and setting system volume at a level not readily audible past the property line.

**Best practices when studying air quality and greenhouse gas impacts**

- Fully analyze all reasonably foreseeable project impacts, including a project's local, statewide, and cumulative emissions impacts.
- When analyzing cumulative impacts, thoroughly consider the project's incremental impact in combination with past, present, and reasonably foreseeable future projects, even if the project's individual impacts alone do not exceed the applicable significance thresholds.
- Prepare a quantitative air quality study in accordance with local air district guidelines.
- Prepare a quantitative health risk assessment in accordance with NJDEP Division of Air Quality Technical Manual 1003, Guidance on Preparing a Risk Assessment for Air Contaminant Emissions.
- Refrain from labeling compliance with NJDEP or air district regulations as a mitigation measure; compliance with applicable regulations is a baseline expectation.
- Fully analyze impacts from truck trips. Municipalities should require full public disclosure of a project's anticipated truck trips, which entails calculating truck trip length based on likely truck trip destinations.
- Any contributions to air pollution in adjacent communities should be quantified, and their significance should be considered.
- Account for all reasonably foreseeable greenhouse gas emissions from the project, without discounting projected emissions based on participation in New Jersey's [Regional Greenhouse Gas Initiative \(RGGI\)](#).

**Best practices to mitigate air quality and greenhouse gas impacts from construction are below. To ensure mitigation measures are enforceable and effective, municipalities should consider**

**imposing certain conditions on a project where appropriate and if needed, requiring the availability of the expertise needed to address compliance (via developer funding).**

- Requiring off-road construction equipment to be zero-emission, where available.
- Restricting all off-road diesel-powered equipment from being in the “on” position for more than 10 hours per day.
- Requiring that all on-road heavy-duty haul trucks be the model year 2010 or newer if diesel-fueled.
- Requiring electrical hookups to the power grid, rather than the use of diesel-fueled generators, for electric construction tools, such as saws, drills, and compressors, and using electric tools whenever feasible.
- Limiting the amount of daily grading disturbance area.
- Prohibiting grading on days with an Air Quality Index forecast of greater than 100 for particulates or ozone for the project area.
- Prohibiting the idling of heavy equipment for more than ten minutes.
- Keeping onsite and furnishing to the lead agency or other regulators upon request, all equipment maintenance records and data sheets, including design specifications and emission control tier classifications.
- Conducting an on-site inspection to verify compliance with construction mitigation and to identify other opportunities to further reduce construction impacts.
- Using paints, architectural coatings, and industrial maintenance coatings that have volatile organic compound levels of less than 10 g/L.
- Providing information on transit and ridesharing programs and services to construction employees.
- Providing meal options onsite or shuttles between the facility and nearby meal destinations for construction employees.

**Examples of measures to mitigate air quality and greenhouse gas impacts from operation include:**

- Requiring early compliance with NJ’s Act Rule, e.g., ensuring that all heavy-duty vehicles entering or operating on the project site are zero-emission beginning in 2030.
- Installing/using on-site equipment, such as forklifts and yard trucks, that is electric with the necessary electrical charging stations provided.
- Using zero-emission light- and medium-duty vehicles.
- Prohibiting trucks from idling for more than ten minutes and requiring operators to turn off engines when not in use.
- Requiring the installation of electric hook-ups to eliminate idling of main and auxiliary engines during loading and unloading, and when trucks are not in use.

- Constructing electric truck charging stations proportional to the number of dock doors and parking spaces at the project.
- Constructing electric plugs for electric transport refrigeration units at every dock door if the warehouse use could include refrigeration.
- Training warehouse managers and employees on efficient scheduling and load management to eliminate unnecessary queuing and idling of trucks within the facility.
- Appointing a compliance officer who is responsible for implementing all mitigation measures and providing contact information for the compliance officer to the lead agency, to be updated annually.
- Posting both interior-and exterior-facing signs, including signs directed at all dock and delivery areas, identifying idling restrictions and contact information to report violations to NJDEP's Environmental Hotline at 1-877 WArn DEP (1-877-927-6337), and the building manager.
- Installing and maintaining, at the manufacturer's recommended maintenance intervals, air filtration systems at sensitive receptors within a certain radius of the facility for the life of the project.
- Installing and maintaining, at the manufacturer's recommended maintenance intervals, an air monitoring station proximate to sensitive receptors and the facility for the life of the project and making the resulting data publicly available in real-time. While air monitoring does not mitigate the air quality or greenhouse gas impacts of a facility, it nonetheless benefits the affected community by providing information that can be used to improve air quality or avoid exposure to unhealthy air.
- Installing solar photovoltaic systems on the project site of a specified electrical generation capacity, such as equal to the building's projected energy needs.
- Installing all stand-by emergency generators to be powered by a non-diesel fuel.
- Requiring operators to establish and promote a rideshare program that discourages single-occupancy vehicle trips and provides financial incentives for alternate modes of transportation, including carpooling, public transit, and biking.
- Achieving certification of compliance with LEED green building standards, including all provisions related to designated parking for clean air vehicles, electric vehicle charging, and bicycle parking.
- Requiring compliance with the Federal Energy Management Program's Fleet Management Framework: <https://www.energy.gov/eere/femp/femp-best-practices-fleet-management-framework>.
- Requiring tenants to enroll in the United States Environmental Protection Agency's SmartWay program and requiring tenants to use carriers that are SmartWay carriers.

(Source: State of CA, Dept. of Justice. Warehouse Projects: Best Practices)