

Good Neighbor Guidelines for Siting New and/or Modified Warehouse/Distribution Facilities

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Regional Air Quality Task Force

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The RAQTF is convened by WRCOG, and is comprised of representatives from South Coast Air Quality Management, County of Riverside, Office of District 2 Supervisor John F. Tavaglione, Eastern Municipal Water District, American Lung Association of the Inland Counties, Center for Community Action and Environmental Justice, March Joint Powers Authority, City of Riverside, City of Norco, Clean Energy, City of Moreno Valley, and the Waste Haulers Association. Their suggestions and input throughout the development of these guidelines are appreciated.

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Introduction

On January 16, 2003, the Riverside County Board of Supervisors (Board) directed Executive Office staff to initiate the establishment of a Regional Air Quality Task Force to study air quality issues in western Riverside County. This task force was envisioned to be an important tool for implementing air quality mitigation measures for the region.

The Regional Air Quality Task Force (RAQTF) continues to research the different areas of air quality mitigation that is needed for the subregion. Since many communities within the region either have a separate air quality element or address air quality issues in their land use section of their General Plan, the RAQTF undertook the need for a policy for local governments to voluntarily adopt when siting new warehouse/distribution centers. It should be noted that air quality agencies, such as, SCAQMD and CARB have broadly addressed this issue with in their Guidance Documents and Air Quality Handbook, but have not created stand alone documentation. The Guidelines that follow appear to be the first stand alone document that local governments can use when siting warehouses.

The RAQTF has developed these “Good Neighbor Guidelines for Siting New and/or Modified Warehouse/Distribution Facilities,” (referred to as “Good Neighbor Guidelines”) to promote and assist planning departments, developers, property owners, elected officials, community organizations, and the general public as a tool to potentially help address some of the complicated choices associated with permitting warehouse/distribution facilities and understanding the options available when addressing environmental issues. These Good Neighbor Guidelines are designed to help minimize the impacts of diesel particulate matter (PM) from on-road trucks associated with warehouses and distribution centers on existing communities and sensitive receptors located in the subregion.

Sensitive receptors are considered:

-  Residential Communities;
-  Schools;
-  Parks;
-  Playgrounds;
-  Day care centers;
-  Nursing homes;
-  Hospitals;
-  And other public places where residents are most likely to spend time.

Objective

The mission of the RAQTF is to develop air quality measures that can be considered and potentially adopted by local governing bodies to address adverse air quality issues in the inland region through their planning activities.

The RAQTF has developed the Good Neighbor Guidelines to help achieve the following objectives:

✚ **Provide local governments with specific strategies that can be considered and implemented to minimize potential diesel impacts from new warehouse and distribution centers;**

✚ **Educate existing warehouse and distribution centers about strategies that can be implemented to minimize potential diesel impacts from their operations.**

Some communities in western Riverside County, because of their proximity to freeways, arterial highways, rail lines, and warehouse/distribution facilities experience higher diesel emissions exposure associated with warehouse/distribution centers than others. In particular, warehouse/distribution center projects sited close to sensitive receptors (homes, schools, parks, day care centers, nursing homes, hospitals and other places public places) can result in adverse health impacts. The reverse is also true – siting sensitive receptors too close to an existing source of diesel emissions can also be a problem.








Audience

These Good Neighbor Guidelines focus on the relationship between land use, permitting, and air quality, and highlight strategies that can help minimize the impacts of diesel emissions associated with warehouse/distribution centers.

The California Resources Air Board (CARB) defines warehouses/distribution centers as facilities that serve as a distribution point for the transfer of goods. Such facilities include cold storage warehouses; goods transfer facilities, and inter-modal facilities such as ports. These operations involve trucks, trailers, shipping containers, and other equipment with diesel engines.

For the purpose of these Guidelines, warehouse/distribution center means a building or premises in which the primary purpose is to store goods, merchandise or equipment for eventual distribution and may include office and maintenance areas. A warehouse or distribution center includes 3 or more loading bays, or is expected to have more than 150 diesel truck trips per day. For the purpose of these Guidelines, a warehouse and distribution center is not intended to include “big box” discount or warehouse stores that sell retail goods, merchandise or equipment, or storage and mini-storage facilities that are offered for rent or lease to the general public.

While the primary users of these Guidelines will likely be agencies responsible for land use planning and air quality, they may also be useful for:

-  Planners;
-  Architects;
-  Developers;
-  Elected officials;
-  School districts;
-  Community advisory councils;
-  Public/community organizations.

Purpose

The purpose of the Good Neighbor Guidelines is to provide local government and developers with a variety of strategies that can be used to reduce diesel emissions from heavy-duty trucks that are delivering goods to and from warehouse and distribution centers.

In 1998, the SCAQMD conducted its second Multiple Air Toxics Emissions Study (MATES II) ¹. Considered the nation's most comprehensive study of toxic air pollution to date, the study found that:

- Diesel exhaust is responsible for about 70 percent of the total cancer risk from air pollution;
- Emissions from mobile sources -- including cars and trucks as well as ships, trains and planes -- account for about 90 percent of the cancer risk. Emissions from businesses and industry are responsible for the remaining 10 percent; and
- The highest cancer risk occurs in south Los Angeles County -- including the port area-- and along major freeways.

The RAQTF is recommending that the Good Neighbor Guidelines be approved by WRCOG member jurisdictions and considered for all new warehouse/distribution centers that attract diesel trucks. Implementation of the recommended guidance for proposed facilities is technically more feasible than retroactive application to existing warehouse/distribution centers. However and as previously mentioned, there is an educational component of these Guidelines aimed at existing facilities. There are mechanisms in the planning process that will encourage developers to incorporate the recommended guidelines upfront in the design phase of a project.

The RAQTF recommends that jurisdictions consider these Guidelines when issuing permits such as conditional use permits, or zoning permits. In addition, the recommended Guidelines can be used to mitigate potentially significant adverse environmental impacts that are identified under the California Environmental Quality Act (CEQA). The recommended Guidelines are intended to be used for new warehouses and can be incorporated in the design phase of the proposed warehouse or distribution center. Many of the recommended guidelines can, however, be incorporated into existing facilities.

The recommended Guidelines format identifies the overall goal, benefits and the recommended strategies that can be implemented to achieve the goal. The Guidelines include a series of strategies that can be implemented in part or whole, or tailored to the specific needs of a project. The purpose of the guidelines is to provide a general framework for planners and developers regarding how they can achieve a specified goal.

It should be noted that CARB has adopted two airborne toxic control measures that will reduce diesel particulate materials (PM) emissions associated with warehouse/distribution centers. The first will limit nonessential (or unnecessary) idling of diesel-fueled commercial vehicles, including those entering from other states or countries. This measure prohibits idling of a vehicle for more than five minutes at any one location. The second measure requires that transport refrigeration units (TRUs) operating in California become cleaner over time. The measure establishes in-use performance standards for existing TRU engines that operate in California, including out-of-state TRUs. The requirements are phased-in beginning in 2008, and extend to 2019.²

CARB also operates a smoke inspection program for heavy-duty diesel trucks that focuses on reducing truck emissions in California communities. Areas with large numbers of distributions centers are a high priority.

While CARB has these measures in place, local agencies need to acknowledge that the enforcement of these measures is through the California Highway Patrol and do not provide a swift resolve to local air quality issues. Local agencies can adopt local control measures, like the ones being mentioned, that can be enforced by code enforcement and law enforcement officials and provide a more immediate affect to the regions air quality.

Recommended Local Guidelines

1. Goal: Minimize exposure to diesel emissions to neighbors that are situated in close proximity to the warehouse/distribution center.

Benefits:

1. Reduces exposure of diesel emissions to residences and other sensitive receptors.
2. Reduces potential future health, odor and noise related issues, particularly when in close proximity to residential neighborhoods.

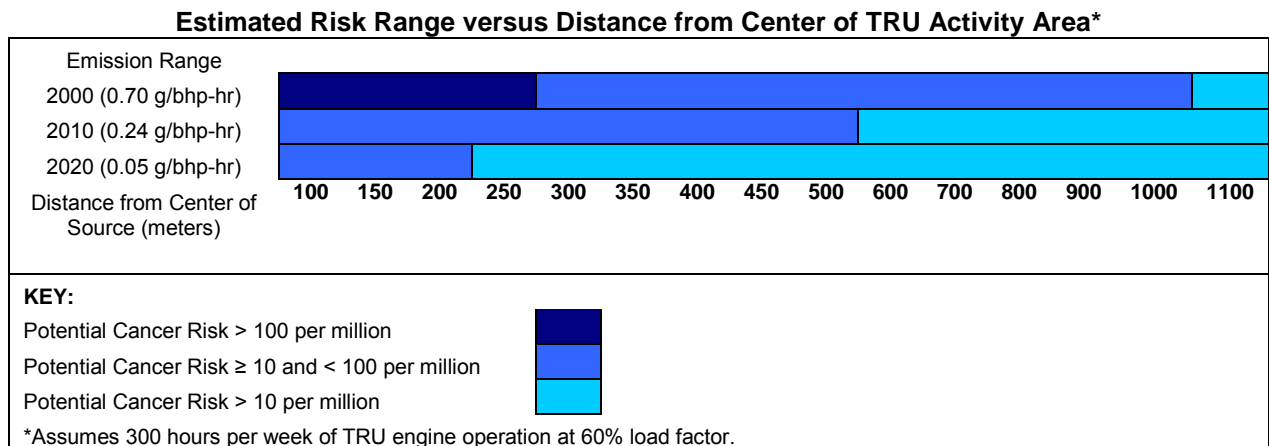
Recommended Strategies:

- Create buffer zone of at least 300 meters (roughly 1,000 feet, can be office space, employee parking, greenbelt) between warehouse/distribution center and sensitive receptors (housing, schools, daycare centers, playground, hospitals, youth centers, elderly care facilities, etc.);
- Site design shall allow for trucks to check-in within facility area to prevent queuing of trucks outside of facility;
- Take into account the configuration of existing distribution centers and avoid locating residences and other new sensitive land uses near entry and exit points³;
- Design warehouse/distribution center so that interior vehicular circulation shall be located away from residential uses or any other sensitive receptors.

Why do we suggest buffer zones?

The reduction of potential cancer risk levels at locations where TRUs operate is a direct result of the reduction of diesel PM emissions. Figure 1-1 compares the cancer risk range at various distances assuming 300 hours of TRU activity per week. For year 2000, the current fleet average emission rate of 0.7 g/bhp-hr was used. In 2020, the statewide fleet PM emission rate would be reduced 92 percent from the 2000 baseline year to 0.05 g/bhp-hr. Figure 1-1 below illustrates the significant reduction of the estimated near source risk as the diesel PM emission rate is reduced from the current fleet emission rate to the much lower emission rate in 2020.⁴

Figure 1-1



2. Goal: Eliminate diesel trucks from unnecessarily traversing through residential neighborhoods.

Benefits:

1. Reduces exposure of diesel emissions to residences and other sensitive receptors.
2. Reduces or eliminate trucks in residential neighborhoods.
3. Reduces truckers travel time if key destinations are clearly identified.

Recommended Guidelines:

- Require warehouse/distribution centers to clearly specify on the facility site plan primary entrance and exit points;
- Require warehouse/distribution centers to establish specific truck routes and post signage between the warehouse/distribution center and the freeway and/or primary access arterial that achieves the objective. The jurisdiction may not have an established truck route, but may take the opportunity to consider the development of one;
- Provide food options, fueling, truck repair and or convenience store on-site or within the warehouse/distribution center complex;
- Require warehouse/distribution centers to provide signage or flyers identifying where food, lodging, and entertainment can be found, when it is not available on site;

3. Goal: Eliminate trucks from using residential areas and repairing vehicles on the streets.

Benefits:

1. Reduces exposure of diesel emissions to residences and sensitive receptors.

Recommended Guidelines:

- Allow homeowners in the trucking business to acquire permits to park vehicles on property, residential areas or streets;
Note: Some jurisdictions already restrict parking of oversized vehicles on residential streets regardless of ownership.
- Establish overnight parking within the warehouse/distribution center;
- Allow warehouse/distribution facilities to establish an area within the facility for repairs.

4. Goal: Reduce and/or eliminate diesel idling within the warehouse/distribution center

Benefits:

1. Reduces exposure of diesel emissions to residences and other sensitive receptors.

Recommended Guidelines:

- Require 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;
- Train warehouse managers and employees on efficient scheduling and load management to eliminate unnecessary queuing and idling of trucks within the facility;
- Require signage that informs truck drivers of the California Air Resources Board (CARB) regulations (which include anti-idling regulations);
- Post signs requesting that truck drivers turn-off engines when not in use;
- Restrict idling within the facility to less than ten (10) minutes.

5. Goal: Establish a diesel minimization plan for on- and off-road diesel mobile sources to be implemented with new projects.

Benefits:

1. Reduces exposure of diesel emissions to residences and sensitive receptors.
2. Establishes long-term goal for facility to eliminate diesel emissions at the facility.
3. Reduces on- and off-road diesel emissions that are associated with use of the facility.

Recommended Guidelines:

- Encourage warehouse/distribution center fleet owners to replace their existing diesel fleets with new model vehicles and/or cleaner technologies, such as electric or compressed natural gas;
- Require all warehouse/distribution centers to operate the cleanest vehicles available;
- Provide incentives for warehouses/distribution centers and corporations which partner with trucking companies that operate the cleanest vehicles available;
- Encourage the installation of clean fuel fueling stations at facilities.

6. Goal: Establish an education program to inform truck drivers of the health effects of diesel particulate and the importance of reducing their idling time.

Benefits:

1. Educates truck drivers of the health effects of diesel particulate to encourage drivers to implement diesel reduction measures.

Recommended Guidelines:

- Provide warehouse/distribution center owners/managers with informational flyers and pamphlets for truck drivers about the health effects of diesel particulates and the importance of being a good neighbor. The following information should include:
 - Health effects of diesel particulates;
 - Benefits of minimizing idling time;
 - ARB idling regulations;
 - Importance of not parking in residential areas.

7. Goal: Establish a public outreach program and conduct periodic community meetings to address issues from neighbors.

Benefits:

1. Informs the community regarding proactive strategies that the warehouse/distribution center has or is doing to reduce exposure to diesel particulate.
2. Allows the warehouse/distribution center to be more proactive.
3. Encourages partnerships to develop solutions for both parties.

Recommended Guidelines:

- Encourage facility owners/management to conduct periodic community meetings inviting neighbors, community groups, and other organizations;
- Encourage facility owners/management to have site visits with neighbors and members of the community to view measures that the facility has taken to reduce/and or eliminate diesel particulate emissions;
- Encourage facility owners/management to coordinate an outreach program that will educate the public and encourage discussion relating to the potential for cumulative impacts from a new warehouse/distribution center.
- Provide facility owners/management with the necessary resources and encourage the utilization of those resources such as, the California Air Resources Board (ARB) and the South Coast Air Quality Management District regarding information about the types and amounts of air pollution emitted in an area, regional air quality concentrations, and health risks estimates for specific sources;
- Require the posting of signs outside of the facility providing a phone number where neighbors can call if there is an air quality issue.

Recommended Regional Guidelines

The following guidelines can be implemented at the regional level for the siting of new and/or modified warehouses/distribution center (s):

- Develop, adopt and enforce truck routes both in and out of a jurisdiction, and in and out of facilities;
- Have truck routes clearly marked with trailblazer signs, so trucks will not enter residential areas;
- Promote the benefits of fleets rapidly adopting cleaner technologies;
- Provide incentives for local fleets to acquire cleaner technologies that can reduce idling;
- Adopt and implement the regional idling ordinance (being developed by this task force) to minimize idling at delivery locations warehouses, truck stops, etc;
- Provide local warehouses/distribution facilities incentives to reduce idling (i.e. reduce noise);
- Identify or develop secure locations outside of residential neighborhoods where truckers that live in the community can park their truck, such as a Park & Ride;
- Educate the local enforcement agencies (including law enforcement) on diesel emissions minimization strategies (specifications, how, etc.);
- Educate local governments of potential air quality impacts;
- Provide food options, fueling, truck repair and or convenience store on-site to minimize the need for trucks to traverse through residential neighborhoods.

GLOSSARY OF KEY TERMS

Buffer Zone: An area of land separating one parcel or land from another that acts to soften or mitigate the effects of one land use on the other.

California Environmental Quality Act (CEQA): A California law that sets forth a process for public agencies to make informed decisions on discretionary projects approvals. The process helps decision-makers determine whether any potential, significant, adverse environmental impacts are associated with a proposed project and to identify alternatives and mitigation measures that will eliminate or reduce such adverse impacts.

Distribution Center: See Warehouse

Idling: The operation of the engine of a vehicle while the vehicle is not in motion.

Land Use Agency: Local government agency that performs functions associated with the review, approval, and enforcement of general plans and plan elements, zoning, and land use permitting. For the purpose of these Guidelines, a land use agency is typically a local planning department.

Mobile Source: Sources of air pollution such as automobiles, motorcycles, trucks, off-road vehicles, boats, trains and airplanes.

Ordinance: A law adopted by a City Council or County Board of Supervisors. Ordinances usually amend, repeal or supplement the municipal code; provide zoning specifications; or appropriate money for specific purposes.

Risk: For cancer health effects, risk is expressed as an estimate of the increase chances of getting cancer due to facility emissions over a 70-year lifetime. This increase in risk expressed as chances in a million (e.g., 1,400 in a million).

Stationary Sources: Non-mobile sources such as manufacturing facilities, power plants, and refineries.

Warehouse(s): For the purpose of these Guidelines, warehouse/distribution center means a building or premises in which the primary purpose is to store goods, merchandise or equipment for eventual distribution and may include office and maintenance areas. A warehouse or distribution center includes 3 or more loading bays, or is expected to have more than 150 diesel truck trips per day. For the purpose of these Guidelines, a warehouse and distribution center is not intended to include “big box” discount or warehouse stores that sell retail goods, merchandise or equipment, or storage and mini-storage facilities that are offered for rent or lease to the general public

Zoning Ordinances: City councils and county boards of supervisors adopts zoning ordinances that set forth land use classifications, divides the county or city into land use zones as delineated on the official zoning, maps, and set enforceable standards for future development.

References

1. *Multiple Air Toxics Emissions Study (MATES II) (2000)*. South Coast Air Quality Management District.
2. *Air Quality and Land Use Handbook: A Community Health Perspective*. (April 2005) California Air Resources Board.
3. *Air Quality and Land Use Handbook: A Community Health Perspective*. (April 2005) California Air Resources Board.
4. *Air Quality and Land Use Handbook: A Community Health Perspective*. (April 2005) California Air Resources Board.