



Figure II.E-2: Estimated Reductions in NO_x Emissions From Land-Based Nonroad Diesel Engines (tons/year)

Table E.II-5 shows that the engines affected by the proposal emit a significant portion of total NO_x emissions in 1996 and 2020, especially in cities. This is not surprising given the

high density of these engines operating in urban areas.¹¹⁰ We selected a variety of cities from across the nation and found that these engines contribute up to 14 percent of the total NO_x

inventories in 1996 and as much as 20 percent to total NO_x inventories in 2020.¹¹¹

TABLE II.E-5—BASELINE LAND-BASED NONROAD DIESEL PERCENT CONTRIBUTION TO NO_x INVENTORIES IN SELECTED URBAN AREAS IN 2020

MSA, State	Land-based NR NO _x as percentage of total NO _x in 1996	Land-based NR NO _x as percentage of total NO _x in 2020
Atlanta, GA	5	7
Boston, MA	14	19
Chicago, IL	6	7
Dallas-Fort Worth, TX	10	13
Indianapolis, IN	8	12
Minneapolis-St. Paul, MN	6	6
New York, NY	11	20
Orlando, FL	10	13
Sacramento, CA	10	19
San Diego, CA	9	14
Denver, CO	8	8
El Paso, TX	8	15
Las Vegas, NV-AZ	11	12
Phoenix-Mesa, AZ	9	11
Seattle, WA	8	11
National Average ^a	6	7

^a This is a 48 state national average.

3. SO₂

We estimate that land-based nonroad, CMV, RMV, and locomotive diesel engines emitted about 227,000 tons of SO₂ in 1996, accounting for about 30 percent of the SO₂ from mobile sources (based on a 48 state inventory). With no reduction in diesel fuel sulfur levels, we

estimate that these emissions will continue to increase, accounting for about 60 percent of mobile source SO₂ emissions by 2030.

As part of this proposal, sulfur levels in fuel would be significantly reduced, leading to large reductions in nonroad diesel SO₂ emissions. By 2007, the

sulfur in diesel fuel used by all nonroad diesel engines would be reduced from the current average in-use level of between 2,300 and 2,400 ppm to an average in-use level of about 340 ppm with a maximum level of 500 ppm. By 2010, the sulfur in diesel fuel used by land-based nonroad engines would be

¹¹⁰ Construction, industrial, and commercial nonroad diesel equipment comprise most of the land-based nonroad emissions inventory. These types of equipment are more concentrated in urban areas where construction projects, manufacturing,

and commercial operations are prevalent. For more information, please refer to the report, "Geographic Allocation of State Level Nonroad Engine Population Data to the County Level," NR-014b, EPA 420-P-02-009.

¹¹¹ We selected these cities to show a collection of typical cities spread across the United States in order to compare typical urban inventories with national average ones.