UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
OFFICE OF AIR QUALITY PLANNING AND STANDARDS
HEALTH AND ENVIRONMENTAL IMPACTS DIVISION
RESEARCH TRIANGLE PARK, NC 27711

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DRAFT MEMORANDUM

SUBJECT: Additional Analysis for the Primary Pb Smelter Case Study Focused on the
           Portion of the Study Area Closest to the Facility

FROM: Zachary Pekar and Deirdre Murphy (EPA, OAQPS)

TO: Lead NAAQS Review Docket (OAR-2006-0735)

This draft memo presents findings for an analysis additional to those presented in *Lead Human Exposure and Health Risk Assessments for Selected Case Studies (Draft Report)* (July, 2007). This analysis was not completed in time for inclusion in the July draft report and is provided here for consideration by the Clean Air Scientific Advisory Committee (CASAC) in their review.
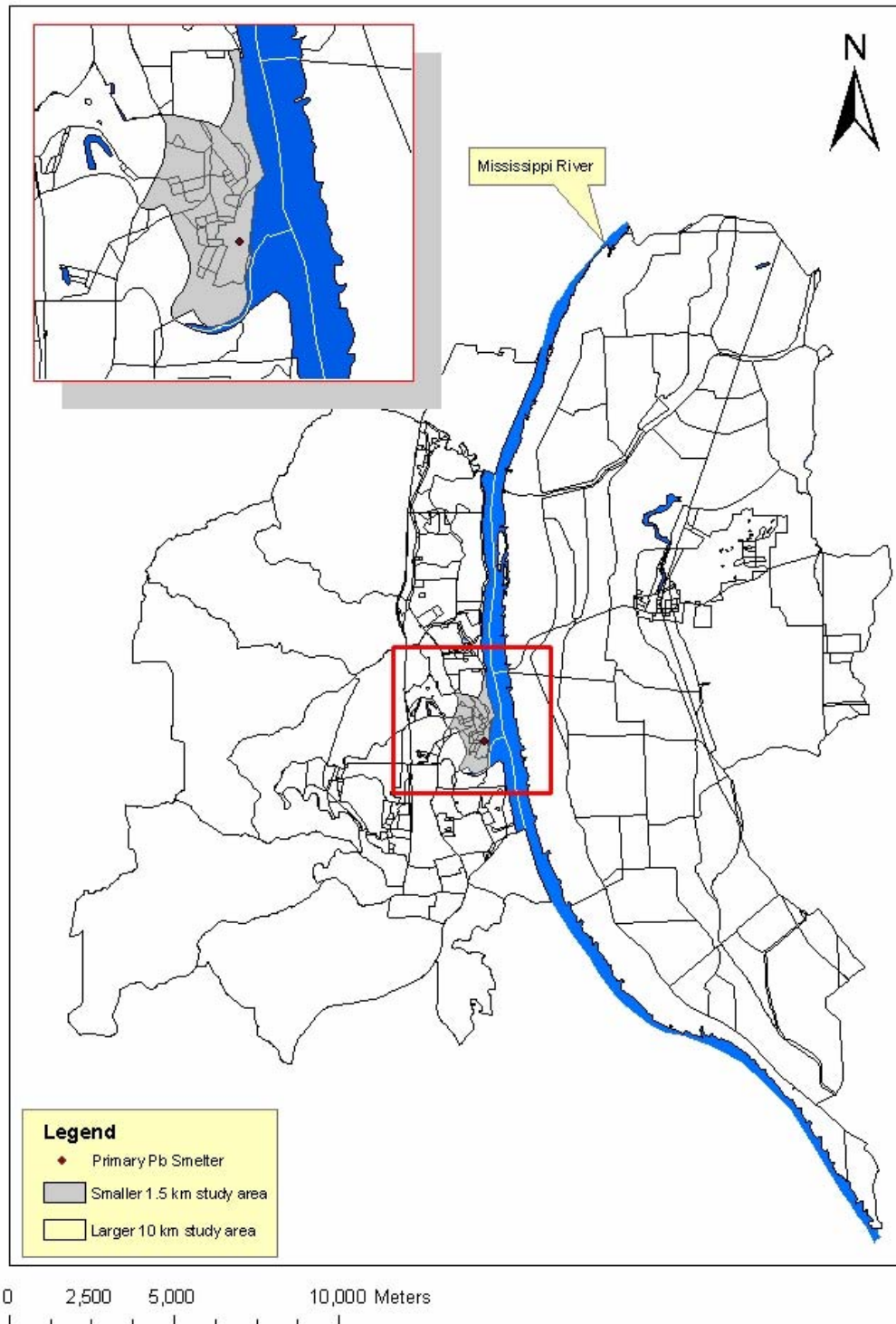
Objective for Analysis

This analysis was undertaken to investigate the impact of the size of the study area on the distribution of blood lead (Pb) and risk estimates for the primary Pb smelter case study. Consistent with the July draft report (see Sections 2.4.3 and 3.2.2), distributions of estimates are developed for exposure associated with policy-relevant sources and policy-relevant background.

Analysis

In the analyses described in the July draft report, the outer boundary for the primary Pb smelter case study was set to approximately 10 kilometers (km) from the primary Pb smelter facility (Appendix D of July draft report). The analysis described here focused on the portion of the primary Pb smelter case study area closest to the facility where the greatest impact from the facility has been found (e.g., highest air and surface soil Pb levels). For this analysis, the extent of this area was defined as those U.S. Census blocks within which soil remediation activities have occurred because of elevated soil Pb levels. This area extends approximately 1.5 km out from the main stack[1] and includes U.S. Census blocks which fall partially or completely within this 1.5 radius, a total of 25 blocks (Figure 1). In the current NAAQS scenario, the annual average air Pb estimates for this sub-area range from 0.098-0.740 $\mu g/m^3$. The sub-area includes 102 children less than 7 years in age, while the full study area includes 3800.

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1 Note: The main stack location is a point of reference for the facility as a whole; its use here is not intended to imply that it is the main contributor to observed or estimated Pb concentrations in environmental media.

Figure 1. Primary Pb smelter case study area and sub-area (red square and inset)**.**

Mississippi River

N

Legend
- Primary Pb Smelter
- Smaller 1.5 km study area
- Larger 10 km study area

0   2,500   5,000   10,000 Meters

This analysis used the central tendency estimates for concurrent and lifetime average blood Pb, developed as described in the July draft report (Sections 3.1 and 3.2.1.1), for the subset of U.S. census blocks within the 1.5 km radius central portion of the study area. The probabilistic population modeling method described in the July draft report (Section 3.2.2) was then applied to this subset of the blood Pb estimates to derive distributions of blood Pb estimates for the 1.5 km sub-area for each air quality scenario. The probabilistic modeling involved fifty thousand simulations.

Estimated Blood Pb Levels

Blood Pb estimates for the concurrent metric are presented in Tables 1 and 2 for the 1.5 km sub-area and the full study area, respectively. These tables include the modeled blood Pb levels for a range of population percentiles along with matching pathway contribution estimates. The derivation of pathway contributions is described in Sections 2.4.3 and 3.2.2 of the July draft report. The full study area results (a subset of which are presented in Table 2) are presented and discussed in Section 3.4 of the July draft report. The full set of blood Pb estimates for the alternate NAAQS scenarios and for the lifetime average blood Pb metric are attached.

The blood Pb levels for all population percentiles are significantly higher for the sub-area compared with the full study area. For example, the median value for the sub-area is 7 micrograms per deciliter (µg/dL), compared with a median value of 2 µg/dL for the full study area. Furthermore, recent air exposure pathways contributed 41% of blood Pb for the median child in the sub-area, while recent air contributed only 12% of blood Pb for the median child in the full study area. With regard to high-end exposures, blood Pb levels for the sub-area are also significantly higher than those for the larger 10km study area. For example, the 99.5th percentile blood Pb level for the smaller 1.5km sub-area is 32 µg/dL, compared with a 99.5th% value for the larger 10km study area of 19 µg/dL. Furthermore, high-end exposures for the smaller 1.5km sub-area are dominated to a greater extent by recent air (65% of the 99.5th percentile child's exposure) compared to the larger 10km study area (44% of the 99.5th percentile child's exposure).

Table 1. Concurrent blood Pb levels for the sub-area in current NAAQS scenario.

Blood Pb Percentile	Population above	Predicted Blood Pb (µg/dL)	Pathway Contribution					
			Ingestion					Inhalation (Recent Air)
						Indoor Dust		
			Diet	Drinking Water	Outdoor Soil/Dust	Other	Recent Air	
99.5th	1	32	2%	1%	11%	20%	64%	1%
99th	1	27	2%	1%	11%	20%	64%	1%
95th	5	18	3%	2%	10%	28%	57%	1%
90th	10	15	5%	3%	12%	41%	39%	1%
75th	26	10	5%	3%	10%	45%	37%	1%
Median	52	7	5%	3%	9%	43%	40%	1%

a "Other" refers to Pb contributions to indoor dust from outdoor soil/dust, indoor paint, and additional sources, including historical air, while "recent air" refers to contributions associated with recent/current outdoor ambient air, with outdoor ambient air also potentially including resuspended, previously deposited Pb (see Section 2.4.3 of July draft report).

Table 2. Concurrent blood lead levels for the full study area in current NAAQS scenario (from Table 3-13 in July draft report).

Blood Pb Percentile	Population Above	Predicted Blood Pb (µg/dL)	Pathway Contribution					
			Ingestion					Inhalation (Recent Air)
						Indoor Dust		
			Diet	Drinking Water	Outdoor Soil/Dust	Other[a]	Recent Air	
99.5th	19	12	4%	2%	15%	36%	43%	1%
99th	39	9	6%	4%	7%	57%	26%	1%
95th	194	5	22%	13%	39%	17%	9%	1%
90th	388	4	15%	9%	48%	17%	10%	1%
75th	970	2	33%	19%	23%	17%	8%	1%
Median	1940	2	11%	6%	54%	17%	11%	1%

a "Other" refers to Pb contributions to indoor dust from outdoor soil/dust, indoor paint, and additional sources, including historical air, while "recent air" refers to contributions associated with recent/current outdoor ambient air, with outdoor ambient air also potentially including resuspended, previously deposited Pb (see Section 2.4.3 of July draft report).

<u>Outdoor Air Pb to Blood Pb Ratios</u>

As part of this analysis, we also derived air-to-blood Pb ratios using the concurrent blood Pb estimates prior to application of the GSD, as described in Section 3.5.2.2 of the July draft report. The sub-area ratios associated with the median and 95th percentile air concentrations and the recent air portion of the blood Pb levels for the current NAAQS scenario are contrasted with the corresponding ratios for the full study area in Table 3.

Table 3. Air-to-blood Pb ratios for recent air contribution to concurrent blood Pb levels in current NAAQS scenario.

Study area	Annual average ambient air Pb concentrations ($\mu g/m^3$)	Air-to-Blood Pb Ratio
Sub-area		
Median air concentration	0.274	1:11
95th percentile air concentration	0.740	1:11
Full study area (drawn from Table 3-24, July draft report)		
Median air concentration	0.093	1:3
95th percentile air concentration	0.740	1:11

The comparison of ratios in Table 3 supports the observation made earlier regarding the blood Pb results that, compared to the full study area, the sub-area has higher blood Pb levels that are driven to a greater extent by recent air Pb. Specifically, the fact that the median ratio is 1:11 for the smaller study area, compared with a median ratio of 1:3 for the full study area, suggests that typical exposures for the smaller study area, which correspond to values above the 95th percentile for the full study area, are driven to a much greater extent by recent air Pb, with other exposures, including background playing a lesser role.

<u>Risk Estimates</u>

Risk estimates generated for the 1.5 km sub-area are presented in Tables 4 through 6, along with the parallel risk estimates for the full (10 km) study area that are also presented in the July draft report (Tables 4-2, 4-3 and Tables 4-10 through 4-14). Tables 4 and 5 focus on risk estimates derived for the policy-relevant "recent air" and "past air" pathways, as described in the July draft report (Sections 2.4.3 and 3.2.2). Table 6 presents risk estimates derived for the cumulative exposure from all exposure pathways characterized in the assessment. Additionally, the full set of risk estimates for the 1.5 km sub-area are attached.

Table 4. Summary of risk estimates for recent air.

Study Area and Air Quality Scenario	Predicted IQ loss for recent air at specific population percentiles [a,b] (range: low to high modeling approach)		
	Median	95th	99.5th
Sub-area			
Current NAAQS (1.5 µg/m^3, max quarterly)	2 to 3	3 to 4	5 to 8
Alternative NAAQS (0.5 µg/m^3, max monthly)	1 to 4	3 to 7	3 to 6
Alternative NAAQS (0.2 µg/m^3, max quarterly)	<1 to 2	2 to 4	2 to 5
Alternative NAAQS (0.2 µg/m^3, max monthly)	<1 to 2	<1 to 4	3 to 4
Alternative NAAQS (0.05 µg/m^3, max monthly)	<1 to 1	<1 to 2	1 to 3
Full study area (drawn from Table 4-2, July draft report)			
Current NAAQS (1.5 µg/m^3, max quarterly)	<1	<1 to 1	2 to 4
Alternative NAAQS (0.5 µg/m^3, max monthly)	<1	<1 to 2 [c]	2 to 6
Alternative NAAQS (0.2 µg/m^3, max quarterly)	<1	<1 to 3	<1-5 [c]
Alternative NAAQS (0.2 µg/m^3, max monthly)	<1	<1 to 2 [c]	<1 to 4
Alternative NAAQS (0.05 µg/m^3, max monthly)	<1	<1	<1

a - "recent air" refers to contributions associated with outdoor ambient air Pb levels (either by inhalation of ambient air Pb or ingestion of indoor dust Pb predicted to be associated with outdoor ambient air Pb levels), with outdoor ambient air also potentially including resuspended, previously deposited Pb (see Section 2.4.3 of July draft report).
b - Estimates below 0.5 are reported as <1.
c – Due to variation in the primary Pb smelter case study estimates resulting from a combination of spatial variation in media concentrations and application of the GSD (see text of Section 4.2.2 of the July draft report), values for adjacent lower percentiles have been substituted here. That is, the 95th percentile values which are both <1 have been replaced with the value for the 90th percentile (<1-2), and the 99.5th percentile value which is <1 was replaced with the value for the 95th percentile (<1-5).

Table 5. Summary of risk estimates for recent plus past air.

Study Area and Air Quality Scenario	Predicted IQ loss for recent plus past air[a] at specific population percentiles[a,b] (range: low to high modeling approach)		
	Median	95th	99.5th
Sub-area			
Current NAAQS (1.5 µg/m^3, max quarterly)	3 to 8	5 to 11	7 to 13
Alternative NAAQS (0.5 µg/m^3, max monthly)	2 to 7	5 to 10	6 to 11
Alternative NAAQS (0.2 µg/m^3, max quarterly)	1 to 5	3 to 8	5 to 10
Alternative NAAQS (0.2 µg/m^3, max monthly)	1 to 5	3 to 8	5 to 10
Alternative NAAQS (0.05 µg/m^3, max monthly)	1 to 4	2 to 6	3 to 8
Full study area (drawn from Table 4-3, July draft report)			
Current NAAQS (1.5 µg/m^3, max quarterly)	<1 to 4	2 to 7	5 to 9
Alternative NAAQS (0.5 µg/m^3, max monthly)	<1 to 4	2 to 7	4 to 9
Alternative NAAQS (0.2 µg/m^3, max quarterly)	<1 to 3	2 to 5	3 to 7
Alternative NAAQS (0.2 µg/m^3, max monthly)	<1 to 4	1 to 6	3 to 8
Alternative NAAQS (0.05 µg/m^3, max monthly)	<1 to 3	2 to 5	3 to 7
a - The term "past air" includes contributions from the outdoor soil/dust contribution to indoor dust, historical air contribution to indoor dust, and outdoor soil/dust pathways, while "recent air" refers to contributions associated with outdoor ambient air Pb levels (either by inhalation of ambient air Pb or ingestion of indoor dust Pb predicted to be associated with outdoor ambient air Pb levels), with outdoor ambient air also potentially including resuspended, previously deposited Pb (see Section 2.4.3 of July draft report). b – Estimates below 0.5 are reported as <1.			

Table 6. Summary of risk estimates reflecting all exposure pathways.

Study Area and Air Quality Scenario	Predicted IQ loss (all pathways)[a, b] at specific population percentiles (range: low to high modeling approach)		
	Median	95th	99.5th
Sub-area			
Current NAAQS (1.5 µg/m^3, max quarterly)	3 to 9	6 to 12	7 to 13
Alternative NAAQS (0.5 µg/m^3, max monthly)	2 to 8	5 to 10	6 to 12
Alternative NAAQS (0.2 µg/m^3, max quarterly)	1 to 7	4 to 9	5 to 11
Alternative NAAQS (0.2 µg/m^3, max monthly)	1 to 6	4 to 9	5 to 11
Alternative NAAQS (0.05 µg/m^3, max monthly)	1 to 5	2 to 8	4 to 9
Full study area (drawn from Tables 4-10 through 4-14, July draft report)			
Current NAAQS (1.5 µg/m^3, max quarterly)	<1 to 4	2 to 8	5 to 10
Alternative NAAQS (0.5 µg/m^3, max monthly)	<1 to 3	1 to 5	2 to 7
Alternative NAAQS (0.2 µg/m^3, max quarterly)	<1 to 3	1 to 5	2 to 6
Alternative NAAQS (0.2 µg/m^3, max monthly)	<1 to 3	1 to 5	2 to 6
Alternative NAAQS (0.05 µg/m^3, max monthly)	<1 to 3	1 to 5	2 to 6
a – Risk estimates presented here are those resulting from all pathways considered in the full-scale assessment (including policy-relevant background). b - Estimates below 0.5 are reported as <1.			

Two primary findings regarding the risk results for this analysis are described below:

Risks are uniformly higher for the 1.5 km sub-area: Comparison of matched sets of population percentile risks presented in Tables 4 through 6 for the 1.5 km sub-area and the full 10 km study area show that in all cases, the sub-area estimates are higher. This is to be expected since the sub-area captures that portion of the full study area with the highest ambient air Pb levels, and consequently the highest estimates of air-related indoor dust Pb level. While the full study area includes a large number of children in areas with ambient air Pb levels well below the alternative NAAQS considered, whose exposures would not be reduced under the alternate NAAQS, these areas are omitted from the sub-area, thus increasing the percentage of simulated children whose exposures, and associated risks, are reduced under alternate NAAQS.

Trends in risk reduction across alternative NAAQS and relative to the current NAAQS are more consistent and obvious for the 1.5 km sub-area: As noted in Section 4.2.2 of the July draft report with regard to the full study, a consistent trend in risk across air quality scenarios is not observed for the high-end percentiles. As explained in that section, this results primarily from the fact that high-end blood Pb and corresponding high-end risks can result from (a) the influence of the GSD in deriving a higher blood Pb level (related to background pathways) in areas of lower ambient air Pb exposures, or (b) residence near the facility, where there are higher ambient air Pb levels (i.e., air-related exposures dominate). With the smaller 1.5km study area, we have focused the analysis on a study population having more similar (and higher) ambient air Pb exposures. As a result, the alternate NAAQS scenarios in this analysis yield lower exposures

for most if not all of the simulated children and therefore, we see a trend of decreasing risks with decreasing alternate NAAQS levels. For example, the recent air 95th percentile risk estimates for the sub-area show a 3 to 7 point IQ loss for the 0.5 µg/m^3 maximum monthly alternative NAAQS, dropping to a <1 to 4 point IQ loss for the 0.2 µg/m^3 maximum monthly alternative NAAQS. The corresponding risk estimates for the full study area are <1 to 2 points IQ loss for both alternate NAAQS. This example illustrates how the sub-area produces a clearer differentiation in risk reduction among alternative NAAQS for the more highly exposed children.

Attachment A. Full Exposure and Risk Results for the 1.5 km Sub-area

Table A-1. Current NAAQS (1.5 µg/m^3, max quarterly) - 1.5 km sub-area

IQ Change Percentile	Predicted IQ Change	Predicted Blood Pb (µg/dL)	Pathway Contribution					Inhalation (Recent Air)
			Ingestion					
			Diet	Drinking Water	Outdoor Soil/Dust	Indoor Dust		
						Other (Paint, Outdoor Soil)	Recent Air	
Dust Model (Air+Soil Regression-Based and H6), GSD (1.7), Blood Pb Metric (Concurrent), IQ Function (Two-Piece Linear)								
99.9th	-8.5	42.4	3.0%	1.7%	11.5%	27.0%	56.0%	0.8%
99.5th	-7.3	32.0	2.2%	1.3%	11.4%	20.3%	63.9%	0.9%
99th	-6.8	27.4	2.2%	1.3%	11.4%	20.3%	63.9%	0.9%
95th	-5.8	18.3	3.1%	1.8%	9.7%	27.8%	56.8%	0.8%
90th	-5.4	14.7	4.5%	2.6%	12.5%	41.1%	38.6%	0.6%
75th	-4.6	10.1	4.9%	2.9%	9.8%	44.6%	37.2%	0.6%
Median	-3.1	6.7	3.1%	1.8%	9.7%	27.8%	56.8%	0.8%
25th	-2.0	4.5	7.3%	4.2%	22.1%	66.0%	0.0%	0.4%
1st	-0.8	1.7	6.3%	3.7%	6.8%	56.7%	25.9%	0.6%
Dust Model (Air+Soil Regression-Based and H6), GSD (1.7), Blood Pb Metric (Concurrent), IQ Function (Log-Linear with Cutpoint)								
99.9th	-10.1	42.4	3.0%	1.7%	11.5%	27.0%	56.0%	0.8%
99.5th	-9.4	32.0	2.2%	1.3%	11.4%	20.3%	63.9%	0.9%
99th	-8.9	27.4	2.2%	1.3%	11.4%	20.3%	63.9%	0.9%
95th	-7.8	18.3	3.1%	1.8%	9.7%	27.8%	56.8%	0.8%
90th	-7.3	14.7	4.5%	2.6%	12.5%	41.1%	38.6%	0.6%
75th	-6.2	10.1	4.9%	2.9%	9.8%	44.6%	37.2%	0.6%
Median	-5.2	6.7	3.1%	1.8%	9.7%	27.8%	56.8%	0.8%
25th	-4.1	4.5	7.3%	4.2%	22.1%	66.0%	0.0%	0.4%
1st	-1.5	1.7	6.3%	3.7%	6.8%	56.7%	25.9%	0.6%
Dust Model (Air+Soil Regression-Based and H6), GSD (1.7), Blood Pb Metric (Concurrent), IQ Function (Log-Linear with Linearization)								
99.9th	-12.8	42.4	3.0%	1.7%	11.5%	27.0%	56.0%	0.8%
99.5th	-12.1	32.0	2.2%	1.3%	11.4%	20.3%	63.9%	0.9%
99th	-11.6	27.4	2.2%	1.3%	11.4%	20.3%	63.9%	0.9%
95th	-10.5	18.3	3.1%	1.8%	9.7%	27.8%	56.8%	0.8%
90th	-10.0	14.7	4.5%	2.6%	12.5%	41.1%	38.6%	0.6%
75th	-8.9	10.1	4.9%	2.9%	9.8%	44.6%	37.2%	0.6%
Median	-7.9	6.7	3.1%	1.8%	9.7%	27.8%	56.8%	0.8%
25th	-6.8	4.5	7.3%	4.2%	22.1%	66.0%	0.0%	0.4%
1st	-4.2	1.7	6.3%	3.7%	6.8%	56.7%	25.9%	0.6%
Dust Model (Air+Soil Regression-Based and H6), GSD (1.6), Blood Pb Metric (Lifetime), IQ Function (Two-Piece Linear)								
99.9th	-9.4	50.1	2.3%	1.3%	6.4%	20.7%	68.3%	0.9%
99.5th	-8.1	39.0	2.2%	1.3%	11.4%	20.3%	63.9%	0.9%
99th	-7.5	33.8	4.2%	2.4%	12.3%	37.7%	42.8%	0.7%

Table A-1. Current NAAQS (1.5 µg/m³, max quarterly) - 1.5 km sub-area

IQ Change Percentile	Predicted IQ Change	Predicted Blood Pb (µg/dL)	Pathway Contribution					Inhalation (Recent Air)
			Ingestion					
						Indoor Dust		
			Diet	Drinking Water	Outdoor Soil/Dust	Other (Paint, Outdoor Soil)	Recent Air	
95th	-6.3	23.6	4.9%	2.9%	9.8%	44.6%	37.2%	0.6%
90th	-5.8	19.4	2.2%	1.3%	11.4%	20.3%	63.9%	0.9%
75th	-5.1	13.9	2.2%	1.3%	11.4%	20.3%	63.9%	0.9%
Median	-3.7	9.7	4.9%	2.9%	9.8%	44.6%	37.2%	0.6%
25th	-2.5	6.7	3.0%	1.7%	11.5%	27.0%	56.0%	0.8%
1st	-1.1	2.8	5.9%	3.4%	16.3%	53.4%	20.4%	0.5%
Dust Model (Air+Soil Regression-Based and H6), GSD (1.6), Blood Pb Metric (Lifetime), IQ Function (Log-Linear with Cutpoint)								
99.9th	-10.8	50.1	2.3%	1.3%	6.4%	20.7%	68.3%	0.9%
99.5th	-10.0	39.0	2.2%	1.3%	11.4%	20.3%	63.9%	0.9%
99th	-9.6	33.8	4.2%	2.4%	12.3%	37.7%	42.8%	0.7%
95th	-8.5	23.6	4.9%	2.9%	9.8%	44.6%	37.2%	0.6%
90th	-7.9	19.4	2.2%	1.3%	11.4%	20.3%	63.9%	0.9%
75th	-6.9	13.9	2.2%	1.3%	11.4%	20.3%	63.9%	0.9%
Median	-5.8	9.7	4.9%	2.9%	9.8%	44.6%	37.2%	0.6%
25th	-4.7	6.7	3.0%	1.7%	11.5%	27.0%	56.0%	0.8%
1st	-2.1	2.8	5.9%	3.4%	16.3%	53.4%	20.4%	0.5%
Dust Model (Air+Soil Regression-Based and H6), GSD (1.6), Blood Pb Metric (Lifetime), IQ Function (Log-Linear with Linearization)								
99.9th	-13.9	50.1	2.3%	1.3%	6.4%	20.7%	68.3%	0.9%
99.5th	-13.1	39.0	2.2%	1.3%	11.4%	20.3%	63.9%	0.9%
99th	-12.7	33.8	4.2%	2.4%	12.3%	37.7%	42.8%	0.7%
95th	-11.6	23.6	4.9%	2.9%	9.8%	44.6%	37.2%	0.6%
90th	-11.0	19.4	2.2%	1.3%	11.4%	20.3%	63.9%	0.9%
75th	-10.0	13.9	2.2%	1.3%	11.4%	20.3%	63.9%	0.9%
Median	-8.8	9.7	4.9%	2.9%	9.8%	44.6%	37.2%	0.6%
25th	-7.7	6.7	3.0%	1.7%	11.5%	27.0%	56.0%	0.8%
1st	-5.1	2.8	5.9%	3.4%	16.3%	53.4%	20.4%	0.5%

Table A-2. Alternative NAAQS (0.5 μg/m^3, max monthly) - 1.5 km sub-area

IQ Change Percentile	Predicted IQ Change	Predicted Blood Pb (μg/dL)	Pathway Contribution					Inhalation (Recent Air)
			Ingestion					
						Indoor Dust		
			Diet	Drinking Water	Outdoor Soil/Dust	Other (Paint, Outdoor Soil)	Recent Air	
Dust Model (Air+Soil Regression-Based and H6), GSD (1.7), Blood Pb Metric (Concurrent), IQ Function (Two-Piece Linear)								
99.9th	-6.9	28.1	3.7%	2.1%	18.5%	18.1%	57.0%	0.6%
99.5th	-6.0	20.6	5.2%	3.1%	16.2%	25.9%	49.0%	0.6%
99th	-5.7	17.7	10.2%	5.9%	7.3%	50.4%	25.7%	0.4%
95th	-5.0	11.9	4.8%	2.8%	18.5%	23.9%	49.4%	0.6%
90th	-4.4	9.6	4.8%	2.8%	18.5%	23.9%	49.4%	0.6%
75th	-3.0	6.7	7.9%	4.6%	15.7%	38.9%	32.5%	0.4%
Median	-2.0	4.5	10.2%	5.9%	7.3%	50.4%	25.7%	0.4%
25th	-1.4	3.0	7.5%	4.4%	19.8%	37.2%	30.7%	0.4%
1st	-0.5	1.1	10.2%	5.9%	7.3%	50.4%	25.7%	0.4%
Dust Model (Air+Soil Regression-Based and H6), GSD (1.7), Blood Pb Metric (Concurrent), IQ Function (Log-Linear with Cutpoint)								
99.9th	-9.0	28.1	3.7%	2.1%	18.5%	18.1%	57.0%	0.6%
99.5th	-8.2	20.6	5.2%	3.1%	16.2%	25.9%	49.0%	0.6%
99th	-7.8	17.7	10.2%	5.9%	7.3%	50.4%	25.7%	0.4%
95th	-6.7	11.9	4.8%	2.8%	18.5%	23.9%	49.4%	0.6%
90th	-6.1	9.6	4.8%	2.8%	18.5%	23.9%	49.4%	0.6%
75th	-5.1	6.7	7.9%	4.6%	15.7%	38.9%	32.5%	0.4%
Median	-4.0	4.5	10.4%	6.1%	31.6%	51.6%	0.0%	0.3%
25th	-2.9	3.0	7.5%	4.4%	19.8%	37.2%	30.7%	0.4%
1st	-0.3	1.1	10.2%	5.9%	7.3%	50.4%	25.7%	0.4%
Dust Model (Air+Soil Regression-Based and H6), GSD (1.7), Blood Pb Metric (Concurrent), IQ Function (Log-Linear with Linearization)								
99.9th	-11.7	28.1	3.7%	2.1%	18.5%	18.1%	57.0%	0.6%
99.5th	-10.9	20.6	5.2%	3.1%	16.2%	25.9%	49.0%	0.6%
99th	-10.5	17.7	10.2%	5.9%	7.3%	50.4%	25.7%	0.4%
95th	-9.4	11.9	4.8%	2.8%	18.5%	23.9%	49.4%	0.6%
90th	-8.8	9.6	4.8%	2.8%	18.5%	23.9%	49.4%	0.6%
75th	-7.8	6.7	7.9%	4.6%	15.7%	38.9%	32.5%	0.4%
Median	-6.7	4.5	10.2%	5.9%	7.3%	50.4%	25.7%	0.4%
25th	-5.6	3.0	7.5%	4.4%	19.8%	37.2%	30.7%	0.4%
1st	-3.0	1.1	10.2%	5.9%	7.3%	50.4%	25.7%	0.4%
Dust Model (Air+Soil Regression-Based and H6), GSD (1.6), Blood Pb Metric (Lifetime), IQ Function (Two-Piece Linear)								
99.9th	-7.6	34.3	4.0%	2.3%	11.2%	19.8%	61.9%	0.7%
99.5th	-6.6	25.8	4.8%	2.8%	18.5%	23.9%	49.4%	0.6%
99th	-6.2	22.6	4.8%	2.8%	18.5%	23.9%	49.4%	0.6%
95th	-5.4	15.8	3.9%	2.3%	10.8%	19.2%	63.2%	0.7%
90th	-4.9	13.0	5.2%	3.0%	11.5%	25.6%	54.1%	0.6%
75th	-3.6	9.4	7.5%	4.4%	19.8%	37.2%	30.7%	0.4%
Median	-2.5	6.5	4.8%	2.8%	18.5%	23.9%	49.4%	0.6%
25th	-1.7	4.5	7.9%	4.6%	15.7%	38.9%	32.5%	0.4%
1st	-0.7	1.9	10.2%	5.9%	7.3%	50.4%	25.7%	0.4%

Table A-2. Alternative NAAQS (0.5 µg/m^3, max monthly) - 1.5 km sub-area

IQ Change Percentile	Predicted IQ Change	Predicted Blood Pb (µg/dL)	Pathway Contribution					Inhalation (Recent Air)
			Ingestion					
						Indoor Dust		
			Diet	Drinking Water	Outdoor Soil/Dust	Other (Paint, Outdoor Soil)	Recent Air	
Dust Model (Air+Soil Regression-Based and H6), GSD (1.6), Blood Pb Metric (Lifetime), IQ Function (Log-Linear with Cutpoint)								
99.9th	-9.7	34.3	4.0%	2.3%	11.2%	19.8%	61.9%	0.7%
99.5th	-8.8	25.8	4.8%	2.8%	18.5%	23.9%	49.4%	0.6%
99th	-8.4	22.6	4.8%	2.8%	18.5%	23.9%	49.4%	0.6%
95th	-7.3	15.8	3.9%	2.3%	10.8%	19.2%	63.2%	0.7%
90th	-6.7	13.0	5.2%	3.0%	11.5%	25.6%	54.1%	0.6%
75th	-5.7	9.4	7.5%	4.4%	19.8%	37.2%	30.7%	0.4%
Median	-4.6	6.5	4.8%	2.8%	18.5%	23.9%	49.4%	0.6%
25th	-3.5	4.5	7.9%	4.6%	15.7%	38.9%	32.5%	0.4%
1st	-0.9	1.9	10.2%	5.9%	7.3%	50.4%	25.7%	0.4%
Dust Model (Air+Soil Regression-Based and H6), GSD (1.6), Blood Pb Metric (Lifetime), IQ Function (Log-Linear with Linearization)								
99.9th	-12.7	34.3	4.0%	2.3%	11.2%	19.8%	61.9%	0.7%
99.5th	-11.8	25.8	4.8%	2.8%	18.5%	23.9%	49.4%	0.6%
99th	-11.4	22.6	4.8%	2.8%	18.5%	23.9%	49.4%	0.6%
95th	-10.3	15.8	3.9%	2.3%	10.8%	19.2%	63.2%	0.7%
90th	-9.8	13.0	5.2%	3.0%	11.5%	25.6%	54.1%	0.6%
75th	-8.8	9.4	7.5%	4.4%	19.8%	37.2%	30.7%	0.4%
Median	-7.6	6.5	4.8%	2.8%	18.5%	23.9%	49.4%	0.6%
25th	-6.5	4.5	7.9%	4.6%	15.7%	38.9%	32.5%	0.4%
1st	-3.9	1.9	10.2%	5.9%	7.3%	50.4%	25.7%	0.4%

Table A-3. Alternative NAAQS (0.2 µg/m³, max quarterly) - 1.5 km sub-area

IQ Change Percentile	Predicted IQ Change	Predicted Blood Pb (µg/dL)	Pathway Contribution					Inhalation (Recent Air)
			Ingestion					
			Diet	Drinking Water	Outdoor Soil/Dust	Indoor Dust		
						Other (Paint, Outdoor Soil)	Recent Air	
Dust Model (Air+Soil Regression-Based and H6), GSD (1.7), Blood Pb Metric (Concurrent), IQ Function (Two-Piece Linear)								
99.9th	-6.0	20.0	7.3%	4.2%	23.0%	21.4%	43.7%	0.4%
99.5th	-5.4	15.0	6.9%	4.0%	26.5%	20.3%	42.0%	0.4%
99th	-5.2	13.0	6.9%	4.0%	26.5%	20.3%	42.0%	0.4%
95th	-3.9	8.6	6.9%	4.0%	26.5%	20.3%	42.0%	0.4%
90th	-3.2	7.0	6.9%	4.0%	26.5%	20.3%	42.0%	0.4%
75th	-2.2	4.9	11.3%	6.6%	19.0%	33.3%	29.5%	0.3%
Median	-1.5	3.2	10.4%	6.1%	27.4%	30.6%	25.3%	0.3%
25th	-1.0	2.2	9.9%	5.8%	27.3%	29.2%	27.4%	0.3%
1st	-0.4	0.8	11.9%	6.9%	32.8%	34.9%	13.4%	0.2%
Dust Model (Air+Soil Regression-Based and H6), GSD (1.7), Blood Pb Metric (Concurrent), IQ Function (Log-Linear with Cutpoint)								
99.9th	-8.1	20.0	7.3%	4.2%	23.0%	21.4%	43.7%	0.4%
99.5th	-7.3	15.0	6.9%	4.0%	26.5%	20.3%	42.0%	0.4%
99th	-6.9	13.0	6.9%	4.0%	26.5%	20.3%	42.0%	0.4%
95th	-5.8	8.6	6.9%	4.0%	26.5%	20.3%	42.0%	0.4%
90th	-5.2	7.0	6.9%	4.0%	26.5%	20.3%	42.0%	0.4%
75th	-4.3	4.9	11.3%	6.6%	19.0%	33.3%	29.5%	0.3%
Median	-3.2	3.2	10.4%	6.1%	27.4%	30.6%	25.3%	0.3%
25th	-2.1	2.2	9.9%	5.8%	27.3%	29.2%	27.4%	0.3%
1st	0.0	0.6	10.4%	6.1%	27.4%	30.6%	25.3%	0.3%
Dust Model (Air+Soil Regression-Based and H6), GSD (1.7), Blood Pb Metric (Concurrent), IQ Function (Log-Linear with Linearization)								
99.9th	-10.8	20.0	7.3%	4.2%	23.0%	21.4%	43.7%	0.4%
99.5th	-10.0	15.0	6.9%	4.0%	26.5%	20.3%	42.0%	0.4%
99th	-9.6	13.0	6.9%	4.0%	26.5%	20.3%	42.0%	0.4%
95th	-8.5	8.6	6.9%	4.0%	26.5%	20.3%	42.0%	0.4%
90th	-7.9	7.0	6.9%	4.0%	26.5%	20.3%	42.0%	0.4%
75th	-7.0	4.9	11.3%	6.6%	19.0%	33.3%	29.5%	0.3%
Median	-5.9	3.2	10.4%	6.1%	27.4%	30.6%	25.3%	0.3%
25th	-4.8	2.2	9.9%	5.8%	27.3%	29.2%	27.4%	0.3%
1st	-2.2	0.8	11.9%	6.9%	32.8%	34.9%	13.4%	0.2%
Dust Model (Air+Soil Regression-Based and H6), GSD (1.6), Blood Pb Metric (Lifetime), IQ Function (Two-Piece Linear)								
99.9th	-6.4	24.8	5.3%	3.1%	26.8%	15.5%	48.9%	0.4%
99.5th	-5.8	19.1	7.3%	4.2%	23.0%	21.4%	43.7%	0.4%
99th	-5.5	16.8	7.3%	4.2%	23.0%	21.4%	43.7%	0.4%
95th	-4.4	11.6	7.6%	4.4%	23.3%	22.2%	42.0%	0.4%
90th	-3.6	9.6	8.4%	4.9%	19.5%	24.6%	42.2%	0.4%
75th	-2.6	6.9	5.3%	3.1%	26.8%	15.5%	48.9%	0.4%
Median	-1.8	4.8	6.0%	3.5%	16.9%	17.7%	55.3%	0.5%
25th	-1.3	3.3	6.9%	4.0%	26.5%	20.3%	42.0%	0.4%
1st	-0.5	1.4	14.8%	8.6%	10.6%	43.5%	22.1%	0.3%

Table A-3. Alternative NAAQS (0.2 µg/m^3, max quarterly) - 1.5 km sub-area

IQ Change Percentile	Predicted IQ Change	Predicted Blood Pb (µg/dL)	Pathway Contribution					Inhalation (Recent Air)
			Ingestion					
						Indoor Dust		
			Diet	Drinking Water	Outdoor Soil/Dust	Other (Paint, Outdoor Soil)	Recent Air	
Dust Model (Air+Soil Regression-Based and H6), GSD (1.6), Blood Pb Metric (Lifetime), IQ Function (Log-Linear with Cutpoint)								
99.9th	-8.7	24.8	5.3%	3.1%	26.8%	15.5%	48.9%	0.4%
99.5th	-7.9	19.1	7.3%	4.2%	23.0%	21.4%	43.7%	0.4%
99th	-7.5	16.8	7.3%	4.2%	23.0%	21.4%	43.7%	0.4%
95th	-6.4	11.6	7.6%	4.4%	23.3%	22.2%	42.0%	0.4%
90th	-5.8	9.6	8.4%	4.9%	19.5%	24.6%	42.2%	0.4%
75th	-4.8	6.9	5.3%	3.1%	26.8%	15.5%	48.9%	0.4%
Median	-3.7	4.8	6.0%	3.5%	16.9%	17.7%	55.3%	0.5%
25th	-2.5	3.3	6.9%	4.0%	26.5%	20.3%	42.0%	0.4%
1st	0.0	1.1	10.4%	6.1%	27.4%	30.6%	25.3%	0.3%
Dust Model (Air+Soil Regression-Based and H6), GSD (1.6), Blood Pb Metric (Lifetime), IQ Function (Log-Linear with Linearization)								
99.9th	-11.7	24.8	5.3%	3.1%	26.8%	15.5%	48.9%	0.4%
99.5th	-10.9	19.1	7.3%	4.2%	23.0%	21.4%	43.7%	0.4%
99th	-10.5	16.8	7.3%	4.2%	23.0%	21.4%	43.7%	0.4%
95th	-9.4	11.6	7.6%	4.4%	23.3%	22.2%	42.0%	0.4%
90th	-8.8	9.6	8.4%	4.9%	19.5%	24.6%	42.2%	0.4%
75th	-7.8	6.9	5.3%	3.1%	26.8%	15.5%	48.9%	0.4%
Median	-6.7	4.8	14.8%	8.6%	10.6%	43.5%	22.1%	0.3%
25th	-5.6	3.3	6.9%	4.0%	26.5%	20.3%	42.0%	0.4%
1st	-2.9	1.4	14.8%	8.6%	10.6%	43.5%	22.1%	0.3%

Table A-4. Alternative NAAQS (0.2 µg/m^3, max monthly) - 1.5 km sub-area

IQ Change Percentile	Predicted IQ Change	Predicted Blood Pb (µg/dL)	Pathway Contribution					Inhalation (Recent Air)
			Ingestion					
			Diet	Drinking Water	Outdoor Soil/Dust	Indoor Dust		
						Other (Paint, Outdoor Soil)	Recent Air	

IQ Change Percentile	Predicted IQ Change	Predicted Blood Pb (µg/dL)	Diet	Drinking Water	Outdoor Soil/Dust	Other (Paint, Outdoor Soil)	Recent Air	Inhalation (Recent Air)
Dust Model (Air+Soil Regression-Based and H6), GSD (1.7), Blood Pb Metric (Concurrent), IQ Function (Two-Piece Linear)								
99.9th	-5.8	18.7	6.6%	3.9%	14.7%	16.7%	57.5%	0.5%
99.5th	-5.3	13.9	6.7%	3.9%	18.9%	17.0%	53.0%	0.5%
99th	-5.0	12.0	7.6%	4.4%	29.1%	19.1%	39.5%	0.3%
95th	-3.6	8.0	12.2%	7.1%	24.2%	30.7%	25.6%	0.3%
90th	-2.9	6.5	8.0%	4.7%	25.4%	20.2%	41.3%	0.4%
75th	-2.0	4.5	5.8%	3.4%	29.5%	14.7%	46.2%	0.4%
Median	-1.4	3.0	7.6%	4.4%	29.1%	19.1%	39.5%	0.3%
25th	-0.9	2.0	15.8%	9.2%	14.3%	39.7%	20.8%	0.3%
1st	-0.4	0.8	12.2%	7.1%	24.2%	30.7%	25.6%	0.3%
Dust Model (Air+Soil Regression-Based and H6), GSD (1.7), Blood Pb Metric (Concurrent), IQ Function (Log-Linear with Cutpoint)								
99.9th	-7.9	18.7	6.6%	3.9%	14.7%	16.7%	57.5%	0.5%
99.5th	-7.1	13.9	6.7%	3.9%	18.9%	17.0%	53.0%	0.5%
99th	-6.7	12.0	7.6%	4.4%	29.1%	19.1%	39.5%	0.3%
95th	-5.6	8.0	12.2%	7.1%	24.2%	30.7%	25.6%	0.3%
90th	-5.0	6.5	8.0%	4.7%	25.4%	20.2%	41.3%	0.4%
75th	-4.0	4.5	5.8%	3.4%	29.5%	14.7%	46.2%	0.4%
Median	-3.0	3.0	7.6%	4.4%	29.1%	19.1%	39.5%	0.3%
25th	-1.9	2.0	15.8%	9.2%	14.3%	39.7%	20.8%	0.3%
1st	0.0	0.9	16.4%	9.5%	11.7%	41.2%	20.9%	0.3%
Dust Model (Air+Soil Regression-Based and H6), GSD (1.7), Blood Pb Metric (Concurrent), IQ Function (Log-Linear with Linearization)								
99.9th	-10.6	18.7	6.6%	3.9%	14.7%	16.7%	57.5%	0.5%
99.5th	-9.8	13.9	6.7%	3.9%	18.9%	17.0%	53.0%	0.5%
99th	-9.4	12.0	7.6%	4.4%	29.1%	19.1%	39.5%	0.3%
95th	-8.3	8.0	12.2%	7.1%	24.2%	30.7%	25.6%	0.3%
90th	-7.7	6.5	8.0%	4.7%	25.4%	20.2%	41.3%	0.4%
75th	-6.7	4.5	5.8%	3.4%	29.5%	14.7%	46.2%	0.4%
Median	-5.7	3.0	7.6%	4.4%	29.1%	19.1%	39.5%	0.3%
25th	-4.6	2.0	15.8%	9.2%	14.3%	39.7%	20.8%	0.3%
1st	-2.1	0.8	12.2%	7.1%	24.2%	30.7%	25.6%	0.3%
Dust Model (Air+Soil Regression-Based and H6), GSD (1.6), Blood Pb Metric (Lifetime), IQ Function (Two-Piece Linear)								
99.9th	-6.2	23.0	9.3%	5.4%	26.9%	23.5%	34.5%	0.3%
99.5th	-5.6	17.7	7.6%	4.4%	29.1%	19.1%	39.5%	0.3%
99th	-5.3	15.6	7.6%	4.4%	29.1%	19.1%	39.5%	0.3%
95th	-4.1	10.8	8.3%	4.9%	25.7%	21.0%	39.7%	0.4%
90th	-3.4	8.9	9.0%	5.2%	23.2%	22.6%	39.6%	0.4%
75th	-2.4	6.3	8.0%	4.7%	25.4%	20.2%	41.3%	0.4%
Median	-1.7	4.4	11.3%	6.6%	29.8%	28.5%	23.6%	0.3%
25th	-1.2	3.0	16.4%	9.5%	11.7%	41.2%	20.9%	0.3%
1st	-0.5	1.3	12.1%	7.0%	21.9%	30.5%	28.2%	0.3%

Table A-4. Alternative NAAQS (0.2 µg/m³, max monthly) - 1.5 km sub-area

IQ Change Percentile	Predicted IQ Change	Predicted Blood Pb (µg/dL)	Pathway Contribution					Inhalation (Recent Air)
			Ingestion					
						Indoor Dust		
			Diet	Drinking Water	Outdoor Soil/Dust	Other (Paint, Outdoor Soil)	Recent Air	
Dust Model (Air+Soil Regression-Based and H6), GSD (1.6), Blood Pb Metric (Lifetime), IQ Function (Log-Linear with Cutpoint)								
99.9th	-8.4	23.0	9.3%	5.4%	26.9%	23.5%	34.5%	0.3%
99.5th	-7.7	17.7	7.6%	4.4%	29.1%	19.1%	39.5%	0.3%
99th	-7.3	15.6	7.6%	4.4%	29.1%	19.1%	39.5%	0.3%
95th	-6.1	10.8	8.3%	4.9%	25.7%	21.0%	39.7%	0.4%
90th	-5.6	8.9	9.0%	5.2%	23.2%	22.6%	39.6%	0.4%
75th	-4.5	6.3	8.0%	4.7%	25.4%	20.2%	41.3%	0.4%
Median	-3.4	4.4	11.3%	6.6%	29.8%	28.5%	23.6%	0.3%
25th	-2.3	3.0	16.4%	9.5%	11.7%	41.2%	20.9%	0.3%
1st	0.0	1.4	16.4%	9.5%	11.7%	41.2%	20.9%	0.3%
Dust Model (Air+Soil Regression-Based and H6), GSD (1.6), Blood Pb Metric (Lifetime), IQ Function (Log-Linear with Linearization)								
99.9th	-11.5	23.0	9.3%	5.4%	26.9%	23.5%	34.5%	0.3%
99.5th	-10.7	17.7	7.6%	4.4%	29.1%	19.1%	39.5%	0.3%
99th	-10.3	15.6	7.6%	4.4%	29.1%	19.1%	39.5%	0.3%
95th	-9.2	10.8	8.3%	4.9%	25.7%	21.0%	39.7%	0.4%
90th	-8.6	8.9	9.0%	5.2%	23.2%	22.6%	39.6%	0.4%
75th	-7.6	6.3	8.0%	4.7%	25.4%	20.2%	41.3%	0.4%
Median	-6.5	4.4	11.3%	6.6%	29.8%	28.5%	23.6%	0.3%
25th	-5.3	3.0	16.4%	9.5%	11.7%	41.2%	20.9%	0.3%
1st	-2.8	1.3	12.1%	7.0%	21.9%	30.5%	28.2%	0.3%

Table A-5. Alternative NAAQS (0.05 µg/m³, max monthly) - 1.5 km sub-area

IQ Change Percentile	Predicted IQ Change	Predicted Blood Pb (µg/dL)	Diet	Drinking Water	Outdoor Soil/Dust	Other (Paint, Outdoor Soil)	Recent Air	Inhalation (Recent Air)
			Pathway Contribution					
			Ingestion			Indoor Dust		
Dust Model (Air+Soil Regression-Based and H6), GSD (1.7), Blood Pb Metric (Concurrent), IQ Function (Two-Piece Linear)								
99.9th	-5.1	12.1	9.6%	5.6%	48.6%	8.7%	27.4%	0.2%
99.5th	-4.1	9.0	12.2%	7.1%	46.7%	11.0%	22.9%	0.1%
99th	-3.5	7.8	13.7%	8.0%	42.3%	12.4%	23.5%	0.1%
95th	-2.4	5.2	17.0%	9.9%	44.8%	15.4%	12.8%	0.1%
90th	-1.9	4.2	12.2%	7.1%	46.7%	11.0%	22.9%	0.1%
75th	-1.3	3.0	19.4%	11.3%	35.1%	17.6%	16.4%	0.1%
Median	-0.9	2.0	12.2%	7.1%	46.7%	11.0%	22.9%	0.1%
25th	-0.6	1.3	13.3%	7.7%	42.1%	12.1%	24.7%	0.2%
1st	-0.2	0.5	27.2%	15.9%	19.5%	24.7%	12.6%	0.1%
Dust Model (Air+Soil Regression-Based and H6), GSD (1.7), Blood Pb Metric (Concurrent), IQ Function (Log-Linear with Cutpoint)								
99.9th	-6.7	12.1	9.6%	5.6%	48.6%	8.7%	27.4%	0.2%
99.5th	-5.9	9.0	12.2%	7.1%	46.7%	11.0%	22.9%	0.1%
99th	-5.5	7.8	13.7%	8.0%	42.3%	12.4%	23.5%	0.1%
95th	-4.5	5.2	17.0%	9.9%	44.8%	15.4%	12.8%	0.1%
90th	-3.9	4.2	12.2%	7.1%	46.7%	11.0%	22.9%	0.1%
75th	-2.9	3.0	19.4%	11.3%	35.1%	17.6%	16.4%	0.1%
Median	-1.9	2.0	12.2%	7.1%	46.7%	11.0%	22.9%	0.1%
25th	-0.8	1.3	13.3%	7.7%	42.1%	12.1%	24.7%	0.2%
1st	0.0	0.6	27.2%	15.9%	19.5%	24.7%	12.6%	0.1%
Dust Model (Air+Soil Regression-Based and H6), GSD (1.7), Blood Pb Metric (Concurrent), IQ Function (Log-Linear with Linearization)								
99.9th	-9.4	12.1	9.6%	5.6%	48.6%	8.7%	27.4%	0.2%
99.5th	-8.6	9.0	12.2%	7.1%	46.7%	11.0%	22.9%	0.1%
99th	-8.2	7.8	13.7%	8.0%	42.3%	12.4%	23.5%	0.1%
95th	-7.2	5.2	17.0%	9.9%	44.8%	15.4%	12.8%	0.1%
90th	-6.6	4.2	12.2%	7.1%	46.7%	11.0%	22.9%	0.1%
75th	-5.6	3.0	19.4%	11.3%	35.1%	17.6%	16.4%	0.1%
Median	-4.6	2.0	12.2%	7.1%	46.7%	11.0%	22.9%	0.1%
25th	-3.5	1.3	13.3%	7.7%	42.1%	12.1%	24.7%	0.2%
1st	-1.4	0.5	27.2%	15.9%	19.5%	24.7%	12.6%	0.1%
Dust Model (Air+Soil Regression-Based and H6), GSD (1.6), Blood Pb Metric (Lifetime), IQ Function (Two-Piece Linear)								
99.9th	-5.3	15.0	12.2%	7.1%	46.7%	11.0%	22.9%	0.1%
99.5th	-4.3	11.3	9.6%	5.6%	48.6%	8.7%	27.4%	0.2%
99th	-3.8	10.0	9.6%	5.6%	48.6%	8.7%	27.4%	0.2%
95th	-2.6	7.0	15.1%	8.8%	33.4%	13.7%	28.9%	0.2%
90th	-2.2	5.7	9.6%	5.6%	48.6%	8.7%	27.4%	0.2%
75th	-1.6	4.1	16.4%	9.6%	45.0%	14.9%	14.0%	0.1%
Median	-1.1	2.9	19.4%	11.3%	35.1%	17.6%	16.4%	0.1%
25th	-0.8	2.0	20.1%	11.7%	33.8%	18.2%	16.1%	0.1%
1st	-0.3	0.8	20.5%	12.0%	43.5%	18.6%	5.3%	0.1%

Table A-5. Alternative NAAQS (0.05 µg/m^3, max monthly) - 1.5 km sub-area

IQ Change Percentile	Predicted IQ Change	Predicted Blood Pb (µg/dL)	Pathway Contribution						Inhalation (Recent Air)
			Ingestion						
			Diet	Drinking Water	Outdoor Soil/Dust	Indoor Dust			
						Other (Paint, Outdoor Soil)	Recent Air		
Dust Model (Air+Soil Regression-Based and H6), GSD (1.6), Blood Pb Metric (Lifetime), IQ Function (Log-Linear with Cutpoint)									
99.9th	-7.1	15.0	12.2%	7.1%	46.7%	11.0%	22.9%	0.1%
99.5th	-6.3	11.3	9.6%	5.6%	48.6%	8.7%	27.4%	0.2%
99th	-5.9	10.0	9.6%	5.6%	48.6%	8.7%	27.4%	0.2%
95th	-4.8	7.0	15.1%	8.8%	33.4%	13.7%	28.9%	0.2%
90th	-4.2	5.7	9.6%	5.6%	48.6%	8.7%	27.4%	0.2%
75th	-3.2	4.1	16.4%	9.6%	45.0%	14.9%	14.0%	0.1%
Median	-2.1	2.9	12.7%	7.4%	28.3%	11.6%	39.8%	0.2%
25th	-1.0	2.0	20.1%	11.7%	33.8%	18.2%	16.1%	0.1%
1st	0.0	0.9	27.2%	15.9%	19.5%	24.7%	12.6%	0.1%
Dust Model (Air+Soil Regression-Based and H6), GSD (1.6), Blood Pb Metric (Lifetime), IQ Function (Log-Linear with Linearization)									
99.9th	-10.2	15.0	12.2%	7.1%	46.7%	11.0%	22.9%	0.1%
99.5th	-9.3	11.3	9.6%	5.6%	48.6%	8.7%	27.4%	0.2%
99th	-9.0	10.0	9.6%	5.6%	48.6%	8.7%	27.4%	0.2%
95th	-7.8	7.0	15.1%	8.8%	33.4%	13.7%	28.9%	0.2%
90th	-7.3	5.7	9.6%	5.6%	48.6%	8.7%	27.4%	0.2%
75th	-6.3	4.1	16.4%	9.6%	45.0%	14.9%	14.0%	0.1%
Median	-5.2	2.9	19.4%	11.3%	35.1%	17.6%	16.4%	0.1%
25th	-4.1	2.0	20.1%	11.7%	33.8%	18.2%	16.1%	0.1%
1st	-1.8	0.8	20.5%	12.0%	43.5%	18.6%	5.3%	0.1%