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Supplementary Figure 1. Single point validation produced with predicted as well as, lower and upper volume flow rates uncertainty limits. Peak concentrations are recorded between 500 and 600m from the source.

Supplementary Table 1. Multisource verification with measured NO2 concentration from sample locations (Annual met data)

Locations	Modelled Concentrations				Measured (1991-1994)	Factors			Background Ozone			
	Lower Limit		Central Limit		No2 ($\mu\text{g}/\text{m}^3$)	Mean of Range	Lower Range	Higher Range	Lower Limit		Central Limit	
	20 $\mu\text{g}/\text{m}^3$	10 $\mu\text{g}/\text{m}^3$	20 $\mu\text{g}/\text{m}^3$	10 $\mu\text{g}/\text{m}^3$					20 $\mu\text{g}/\text{m}^3$	10 $\mu\text{g}/\text{m}^3$	20 $\mu\text{g}/\text{m}^3$	10 $\mu\text{g}/\text{m}^3$
Nembe Creek	12.594	10.481	15.36	13.041	7.3 - 14.3	10.8	5.4	21.6	1	1	1	1
Belema	14.15	11.726	17.215	14.589	2.3 - 10.4	6.35	3.175	12.7	0	1	0	0
Soku	21.508	17.749	26.062	22.193	6.0 - 12.5	9.25	4.625	18.5	0	1	0	0
Awoba	21.16	17.818	25.971	22.35	2.8 - 9.5	6.15	3.075	12.3	0	0	0	0
Agbada 1	31.922	27.363	39.317	34.796	2.8 - 9.5	6.15	3.075	12.3	0	0	0	0
Obigbo North (1)	33.432	28.931	41.404	36.941	2.8 - 13.0	7.9	3.95	15.8	0	0	0	0
Alakiri	32.633	28.553	40.761	36.623	2 - 12.5	7.25	3.625	14.5	0	0	0	0
Bonny	21.518	19.002	26.995	24.264	4.7 - 27.2	15.95	7.975	31.9	1	1	1	1
Total									2	4	2	2
%									25	50	25	25

Supplementary Table 2. Multisource verification with measured NO2 concentration from sample locations (monthly met data)

Station	Measured (1991-1994)	Factors			Background Ozone					
	No2 ($\mu\text{g}/\text{m}^3$)	Mean of Range	Lower Range	Upper Range	Lower Limit			Central Limit		
					40 $\mu\text{g}/\text{m}^3$	20 $\mu\text{g}/\text{m}^3$	10 $\mu\text{g}/\text{m}^3$	40 $\mu\text{g}/\text{m}^3$	20 $\mu\text{g}/\text{m}^3$	10 $\mu\text{g}/\text{m}^3$
Nembe Creek	7.3 - 14.3	10.8	5.4	21.6	1	1	1	1	1	1
Belema	2.3 - 10.4	6.35	3.175	12.7	0	1	1	0	1	1
Soku	6.0 - 12.5	9.25	4.625	18.5	0	0	1	0	0	0
Awoba	2.8 - 9.5	6.15	3.075	12.3	0	0	0	0	0	0
Agbada 1	2.8 - 9.5	6.15	3.075	12.3	0	0	0	0	0	0
Obigbo North (1)	2.8 - 13.0	7.9	3.95	15.8	0	0	0	0	0	0
Alakiri	2 - 12.5	7.25	3.625	14.5	0	0	0	0	0	0
Bonny	4.7 - 27.2	15.95	7.975	31.9	1	1	1	0	0	0
Total					2	3	4	1	2	2
%					25	37.5	50	12.5	25	25

Note: Lower, central limits = Estimates from lower uncertainty limit and the central (predicted) estimates as described in manuscript (Section 3.3.3)

