

Supplemental information for:
A Direct sensitivity approach to predict hourly ozone resulting from compliance with the National
Ambient Air Quality Standard

Heather Simon, Kirk Baker, Farhan Akhtar, Sergey L. Napelenok, Norm Possiel, Benjamin Wells,
Brian Timin

Contents

DDM Background	4
Model Set-up and Evaluation.....	5
Choosing X, Y, and Z Cutpoints to Minimize Error	15
Ozone Distributions for Simultaneous NO _x and VOC Emissions Reductions Applied to Lower the 4 th Highest MDA8	18
Data for Linear Regressions of NO _x and VOC sensitivities	20
References	27
Tables Summarizing Linear Regression Data	28

Figures

Figure S1. Map of the 36km continental US and 12km Eastern US modeling domains used in this work.

Figures S2. Map of Charlotte area monitoring sites evaluated in this work.

Figure S3. Map of Detroit area monitoring sites evaluated in this work.

Figure S4. Time series of measured and modeled average hourly ozone concentrations at seven Charlotte area ozone monitors for July 2005.

Figure S5. Time series of measured and modeled average hourly ozone concentrations at seven Charlotte area ozone monitors for August 2005.

Figure S6. Time series of measured and modeled average 8-hr daily maximum ozone concentrations at seven Charlotte area ozone monitors for July and August 2005.

Figure S7. Time series of measured and modeled average hourly ozone concentrations at eight Detroit area ozone monitors for July 2005.

Figure S8. Time series of measured and modeled average hourly ozone concentrations at eight Detroit area ozone monitors for August 2005.

Figure S9. Time series of measured and modeled average 8-hr daily maximum ozone concentrations at eight Detroit area ozone monitors for July and August 2005.

Figure S10. Density scatter plots comparing ozone predictions using DDM sensitivities to 100% NO_x cuts to model predictions from runs with brute force emissions cuts at Charlotte and Detroit sites.

Figure S11. Hourly modeled ozone distributions for an urban and a non-urban site in Detroit for July and August 2005.

Figures S12. Hourly observed ozone distributions for an urban and a non-urban site in Detroit for July and August 2005.

Figure S13. Relationship between first order NO_x sensitivities (“USNOX”) and hourly ozone at Charlotte monitoring locations at 2pm.

Figure S14. Relationship between second order NO_x sensitivities (“USNOX2”) and first order NO_x sensitivities (“USNOX”) at Charlotte monitoring locations at 2pm.

Figure S15. Predicted change in observed ozone to meet 4th highest MDA8 = 75 with NO_x cuts for Charlotte sites on 3 days with different MDA8 values. Solid lines show predicted ozone change while dotted lines outline the propagated standard error in these estimates based on the standard error in each predicted sensitivity coefficient.

Figure S16. Predicted change in observed ozone to meet 4th highest MDA8 = 75 with NO_x cuts for Detroit sites on 3 days with different MDA8 values. Solid lines show predicted ozone change while dotted lines outline the propagated standard error in these estimates based on the standard error in each predicted sensitivity coefficient.

Figure S17. Predicted change in observed ozone to meet 4th highest MDA8 = 75 with NO_x and VOC cuts for Detroit sites on 3 days with different MDA8 values. Solid lines show predicted ozone change while dotted lines outline the propagated standard error in these estimates based on the standard error in each predicted sensitivity coefficient.

Figure S18. Depiction of 3-step DDM adjustment approach. Right panels show trajectories for 3 different ozone concentrations at Detroit site 260991003 at 11pm. Left panels show trajectories for 3 different ozone concentrations at Detroit site 260991003 at 6am.

Figure S19. Depiction of 3-step DDM adjustment approach. Right panels show trajectories for 3 different ozone concentrations at Detroit site 260990009 at 11pm. Left panels show trajectories for 3 different ozone concentrations at Detroit site 260990009 at 6am.

Tables

Table S1. Summary of model performance statistics of modeled ozone compared to measured ozone at Charlotte area monitoring sites for July and August 2005.

Table S2. Summary of model performance statistics of modeled ozone compared to measured ozone at Detroit area monitoring sites for July and August 2005.

Table S3: Modeled and observed fourth highest 8-hr daily maximum ozone values for Detroit area monitoring sites during July-August 2005. Urban sites are shaded in gray.

Table S4. Summary of linear regression data for first order NO_x sensitivities at Charlotte sites in the base model run ($S_{\text{NO}_x} = \text{slope} \times \text{O}_3 + \text{intercept}$).

Table S5. Summary of linear regression data for first order NO_x sensitivities at Charlotte sites in the 50% NO_x cut model run ($S_{\text{NO}_x} = \text{slope} \times \text{O}_3 + \text{intercept}$).

Table S6. Summary of linear regression data for first order NO_x sensitivities at Charlotte sites in the 75% NO_x cut model run ($S_{\text{NO}_x} = \text{slope} \times \text{O}_3 + \text{intercept}$).

Table S7. Summary of linear regression data for second order NO_x sensitivities at Charlotte sites in the base model run ($S^2_{\text{NO}_x} = \text{slope} \times S_{\text{NO}_x} + \text{intercept}$).

Table S8. Summary of linear regression data for second order NO_x sensitivities at Charlotte sites in the 50% NO_x cut model run ($S^2_{\text{NO}_x} = \text{slope} \times S_{\text{NO}_x} + \text{intercept}$).

Table S9. Summary of linear regression data for second order NO_x sensitivities at Charlotte sites in the 75% NO_x cut model run ($S^2_{\text{NO}_x} = \text{slope} \times S_{\text{NO}_x} + \text{intercept}$).

Table S10. Summary of linear regression data for first order NO_x sensitivities at Detroit sites in the base cut model run ($S_{\text{NO}_x} = \text{slope} \times O_3 + \text{intercept}$).

Table S11. Summary of linear regression data for first order NO_x sensitivities at Detroit sites in the 50% NO_x cut model run ($S_{\text{NO}_x} = \text{slope} \times O_3 + \text{intercept}$).

Table S12. Summary of linear regression data for first order NO_x sensitivities at Detroit sites in the 75% NO_x cut model run ($S_{\text{NO}_x} = \text{slope} \times O_3 + \text{intercept}$).

Table S13. Summary of linear regression data for second order NO_x sensitivities at Detroit sites in the base model run ($S^2_{\text{NO}_x} = \text{slope} \times S_{\text{NO}_x} + \text{intercept}$).

Table S14. Summary of linear regression data for second order NO_x sensitivities at Detroit sites in the 50% NO_x cut model run ($S^2_{\text{NO}_x} = \text{slope} \times S_{\text{NO}_x} + \text{intercept}$).

Table S15. Summary of linear regression data for second order NO_x sensitivities at Detroit sites in the 75% NO_x cut model run ($S^2_{\text{NO}_x} = \text{slope} \times S_{\text{NO}_x} + \text{intercept}$).

Table S16. Summary of linear regression data for first order VOC sensitivities at Detroit sites in the base cut model run ($S_{\text{VOC}} = \text{slope} \times O_3 + \text{intercept}$).

Table S17. Summary of linear regression data for first order VOC sensitivities at Detroit sites in the 50% NO_x cut model run ($S_{\text{VOC}} = \text{slope} \times O_3 + \text{intercept}$).

Table S18. Summary of linear regression data for first order VOC sensitivities at Detroit sites in the 75% NO_x cut model run ($S_{\text{VOC}} = \text{slope} \times O_3 + \text{intercept}$).

Table S19. Summary of linear regression data for second order VOC sensitivities at Detroit sites in the base model run ($S^2_{\text{VOC}} = \text{slope} \times S_{\text{VOC}} + \text{intercept}$).

Table S20. Summary of linear regression data for second order VOC sensitivities at Detroit sites in the 50% NO_x cut model run ($S^2_{\text{VOC}} = \text{slope} \times S_{\text{VOC}} + \text{intercept}$).

Table S21. Summary of linear regression data for second order VOC sensitivities at Detroit sites in the 75% NO_x cut model run ($S^2_{\text{VOC}} = \text{slope} \times S_{\text{VOC}} + \text{intercept}$).

Table S22. Summary of linear regression data for second order NO_x/VOC interaction sensitivities at Detroit sites in the base model run ($S_{\text{NO}_x\text{VOC}} = \text{slope1} \times S_{\text{NO}_x} + \text{slope2} \times S_{\text{VOC}} + \text{intercept}$).

Table S23. Summary of linear regression data for second order NO_x/VOC interaction sensitivities at Detroit sites in the 50% NO_x cut model run ($S_{\text{NO}_x\text{VOC}} = \text{slope1} \times S_{\text{NO}_x} + \text{slope2} \times S_{\text{VOC}} + \text{intercept}$).

Table S24. Summary of linear regression data for second order NO_x/VOC interaction sensitivities at Detroit sites in the 75% NO_x cut model run ($S_{\text{NO}_x\text{VOC}} = \text{slope1} \times S_{\text{NO}_x} + \text{slope2} \times S_{\text{VOC}} + \text{intercept}$).

S1. DDM Background

DDM calculates spatially and temporally varying sensitivity coefficients which are computed as the partial derivative of the atmospheric diffusion equation with respect to the input of interest, Equation S-1.

$$S_{ij}(t) = \tilde{P}_j \frac{\partial C_i(t)}{\partial p_j} = \tilde{P}_j \frac{\partial C_i(t)}{\partial (\epsilon_j \tilde{P}_j)} = \frac{\partial C_i(t)}{\partial \epsilon_j} \quad \text{Equation S-1}$$

The change in concentration of species i (C_i) for an incremental change in input parameter j (p_j) is represented by S_{ij} , the normalized sensitivity coefficient (ppb / fractional change in p_j). $\tilde{P}_j(x,t)$ is the normalized input parameter and ϵ_j is a scaling variable representing a small fractional change in the normalized input parameter¹. In specific terms, the sensitivity coefficient tells us how a model output (ozone concentration) will change if a model input (emissions of NO_x or VOC) is perturbed. This first order sensitivity coefficient, $S_{ij}(t)$ is accurate for small perturbations and is limited by only approximating a linear response. Second (and third) order derivatives can be taken to give higher order sensitivity coefficients, e.g. S^2_{ij} , which can extend the approximation to capture non-linear responses². The sensitivities can be expressed such that a new concentration is estimated using modeled coefficients with the first three terms of the Taylor series expansion, Equation S-2.

$$C(+\Delta\epsilon) = C(0) + \Delta\epsilon S(0) + \frac{\Delta\epsilon^2}{2} S^2(0) + \dots + \frac{\Delta\epsilon^n}{n!} S^n(0) + R_{n+1} \quad \text{Equation S-2}$$

Here $\Delta\epsilon$ represents the relative change in emissions (for instance $\Delta\epsilon = -0.2$ would be equivalent to reducing emissions by 20%), $C(0)$ is the concentration under baseline conditions (no perturbation in emissions) and R_{n+1} is an error term.

S2. Model Set-up and Evaluation

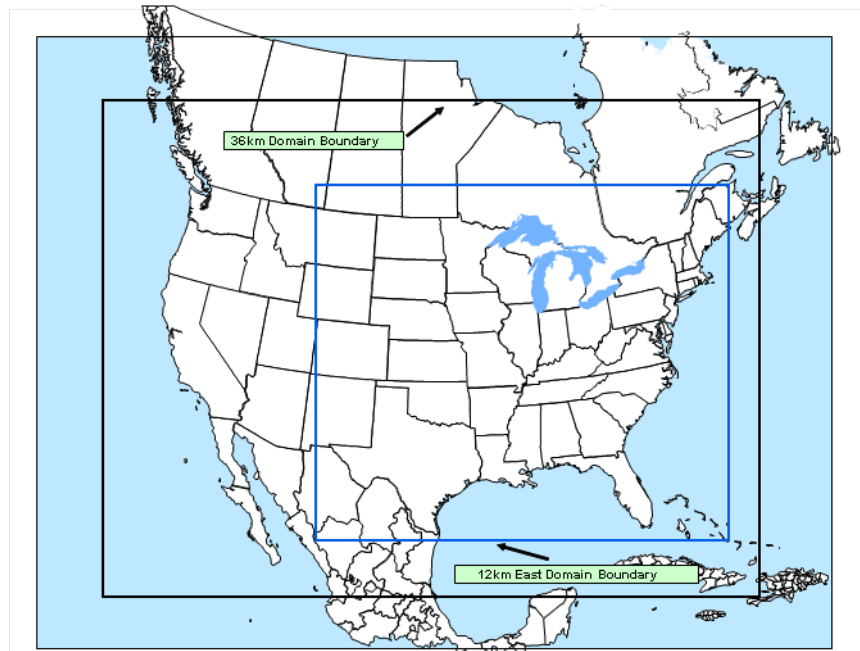
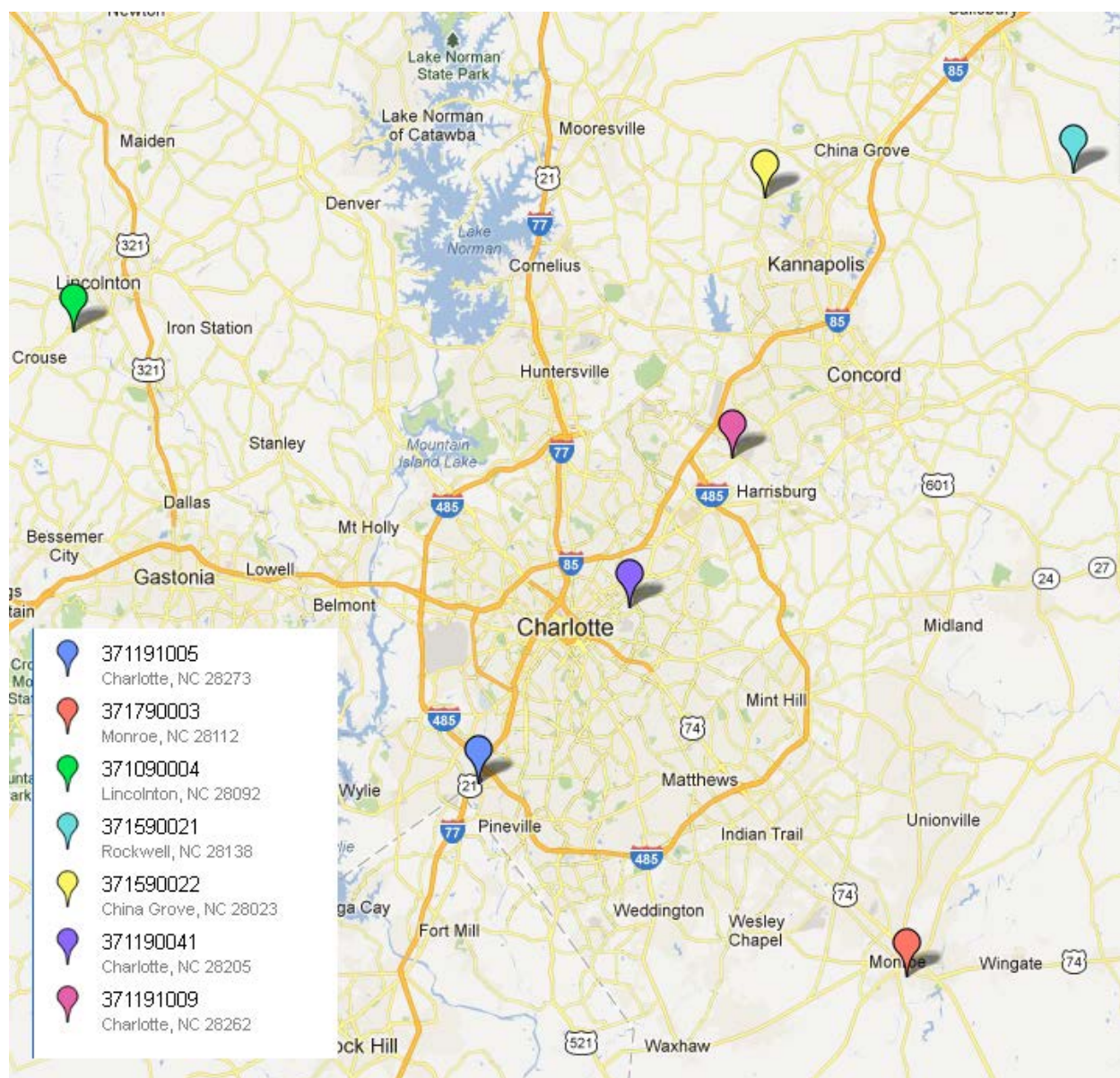


Figure S1. Map of the 36km continental US and 12km Eastern US modeling domains used in this work.



Figures S2. Map of Charlotte area monitoring sites evaluated in this work.

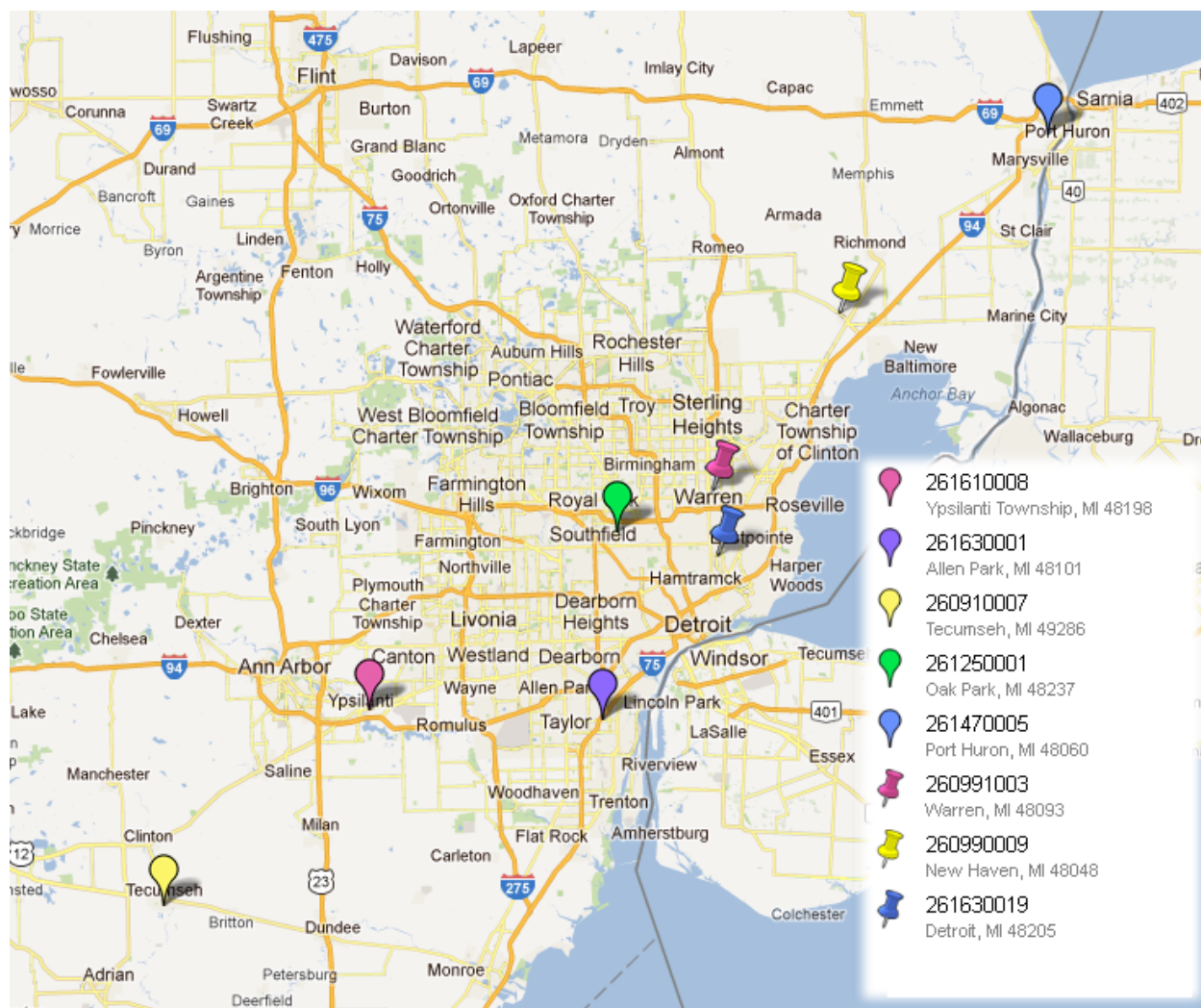


Figure S3. Map of Detroit area monitoring sites evaluated in this work.

Table S1. Summary of model performance statistics of modeled ozone compared to measured ozone at Charlotte area monitoring sites for July and August 2005.

Metric	Hourly ozone		8-hr daily maximum ozone	
	All values	➤ 60 ppb	All values	➤ 60 ppb
Number	10018	1482	422	167
Mean Obs (ppb)	32.8	73.2	56.1	72.9
Mean Mod (ppb)	46.0	71.2	60.9	73.1
Mean Bias (ppb)	13.2	-2.0	4.8	0.2
Mean Error (ppb)	15.8	8.7	7.9	6.5
Normalized mean bias (%)	40.3	-2.8	8.6	0.3
Normalized mean error (%)	48.3	11.9	14.1	9.0

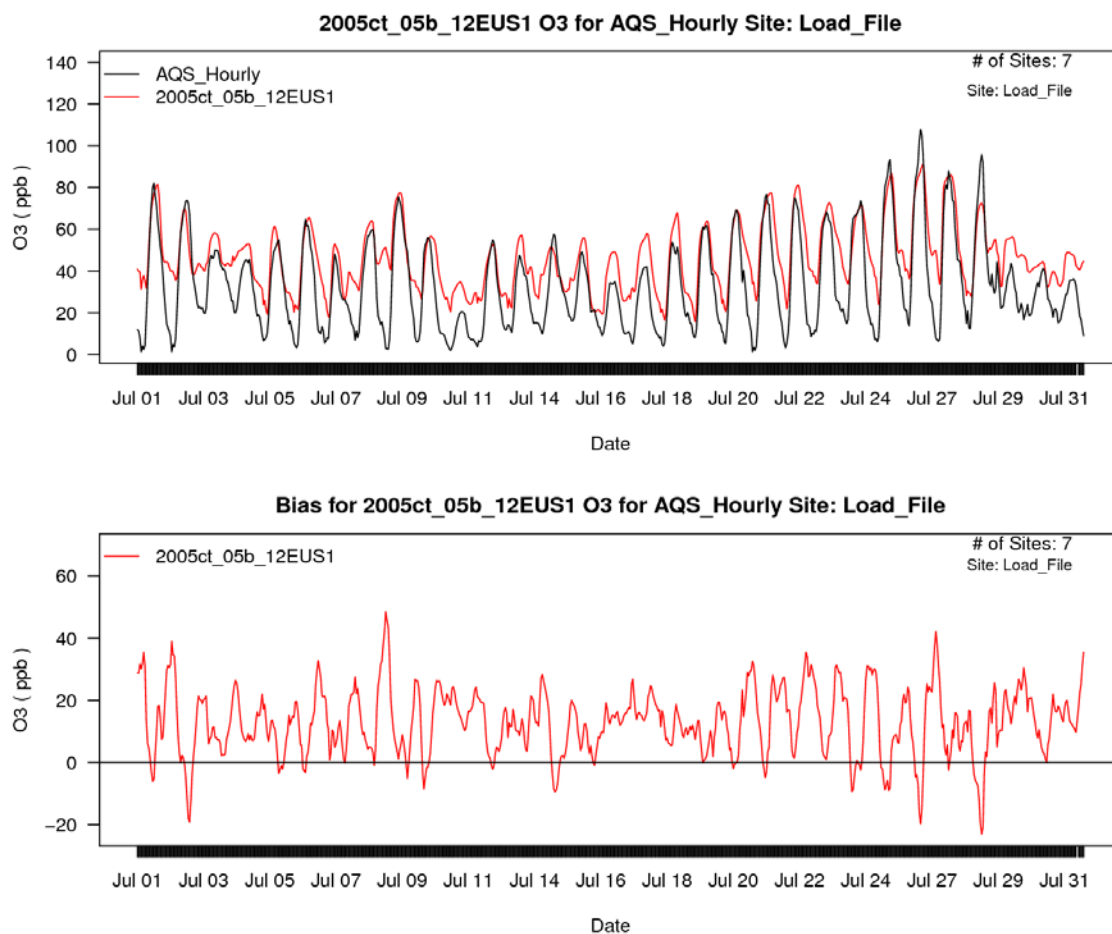


Figure S4. Time series of measured and modeled average hourly ozone concentrations at seven Charlotte area ozone monitors for July 2005.

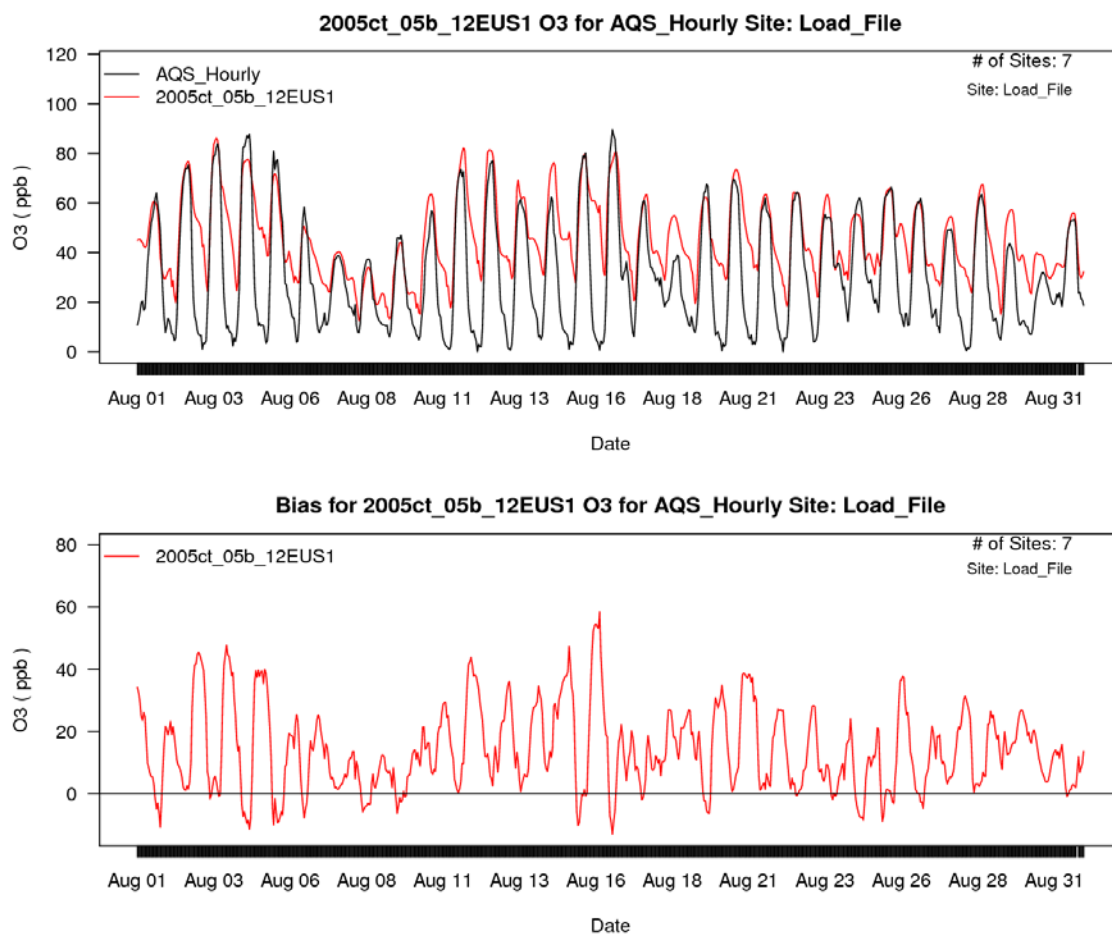


Figure S5. Time series of measured and modeled average hourly ozone concentrations at seven Charlotte area ozone monitors for August 2005.

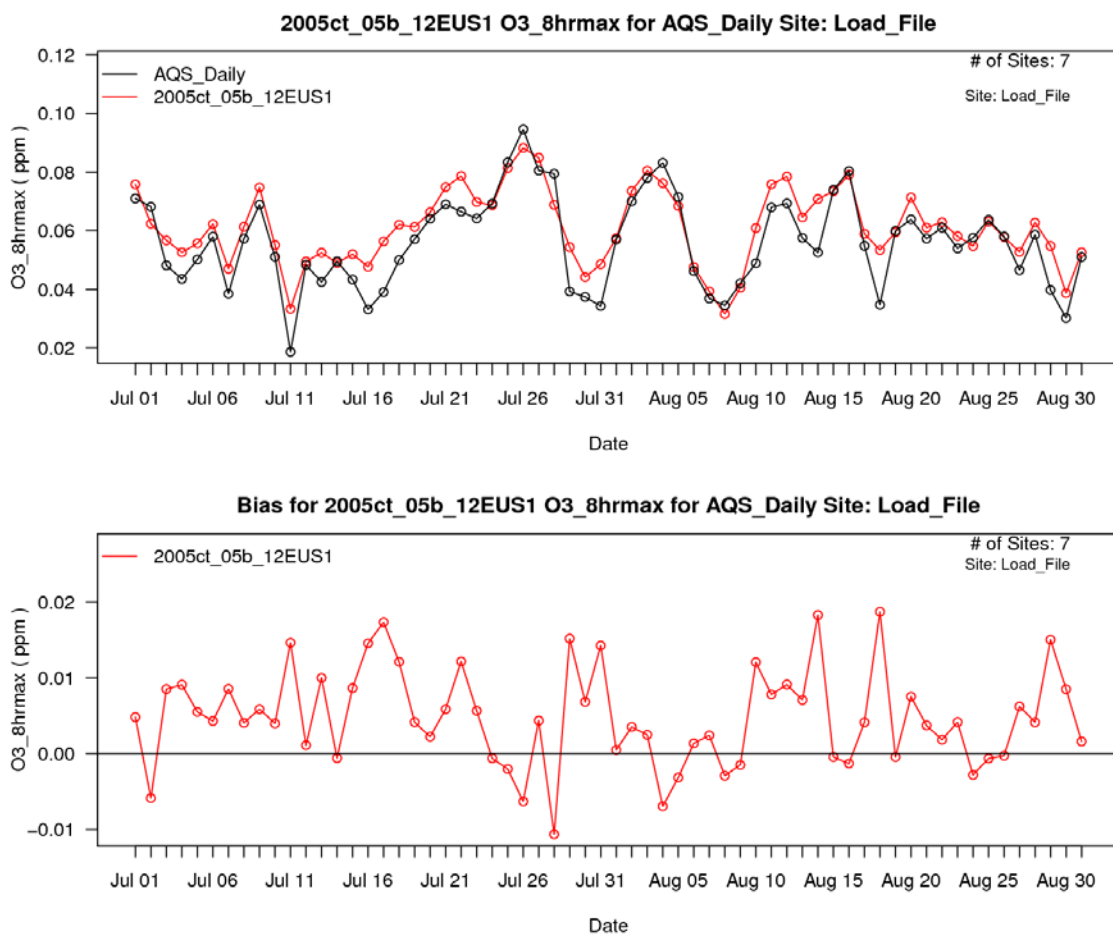


Figure S6. Time series of measured and modeled average 8-hr daily maximum ozone concentrations at seven Charlotte area ozone monitors for July and August 2005.

Table S2. Summary of model performance statistics of modeled ozone compared to measured ozone at Detroit area monitoring sites for July and August 2005.

Metric	Hourly ozone		8-hr daily maximum ozone	
	All values	➤ 60 ppb	All values	➤ 60 ppb
Number	11,329	1362	295	88
Mean Obs (ppb)	33.6	71	53.7	71.7
Mean Mod (ppb)	37.9	63.2	55.9	67.7
Mean Bias (ppb)	4.4	-7.8	2.2	-4.1
Mean Error (ppb)	11.2	11.7	7.8	7.7
Normalized mean bias (%)	13.0	-10.9	4.1	-5.7
Normalized mean error (%)	33.4	16.6	14.5	10.7

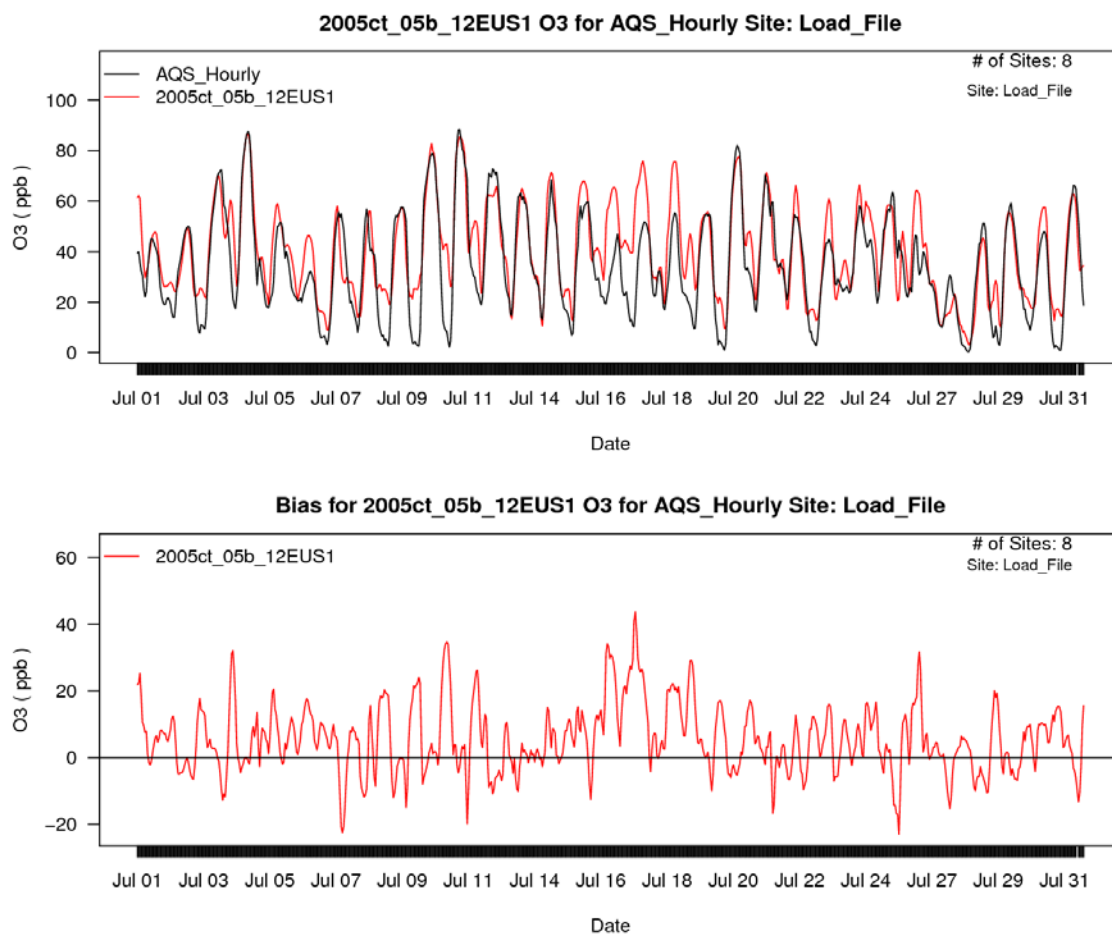


Figure S7. Time series of measured and modeled average hourly ozone concentrations at eight Detroit area ozone monitors for July 2005.

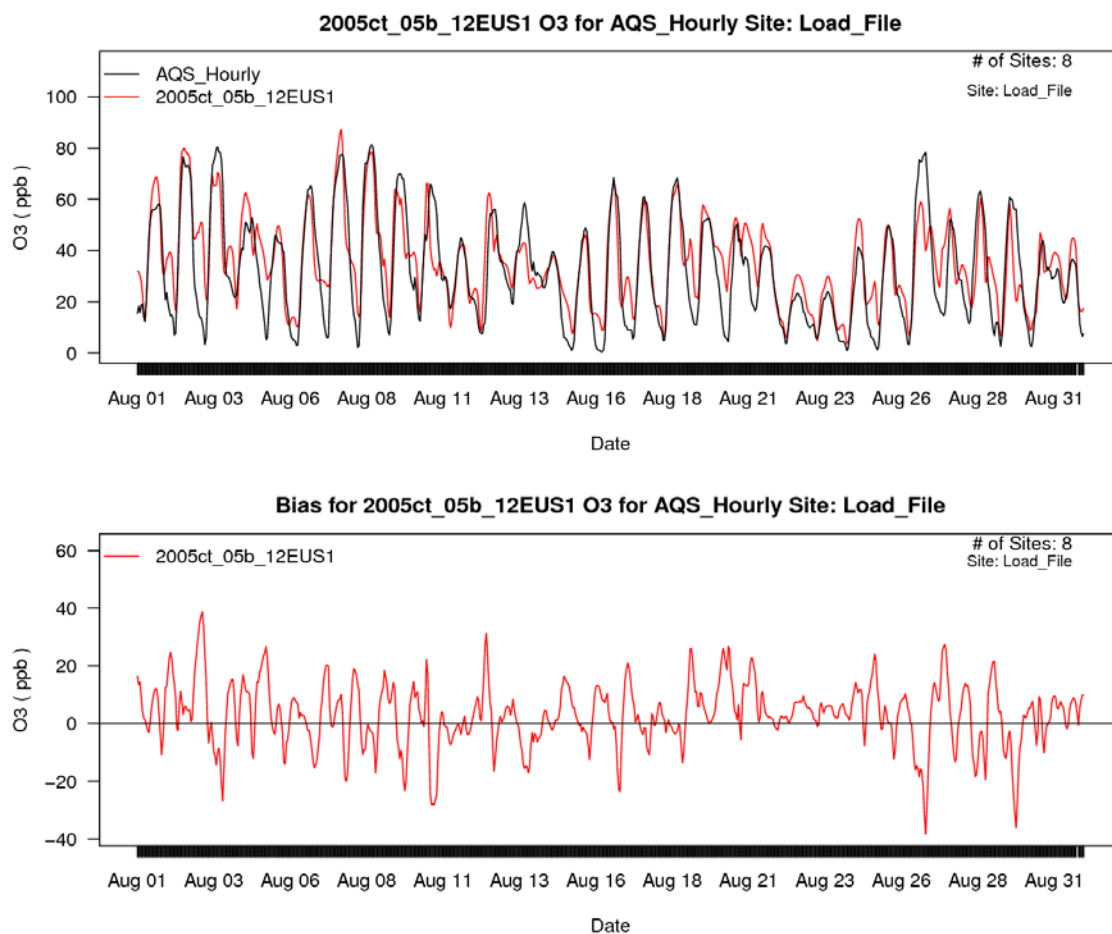


Figure S8. Time series of measured and modeled average hourly ozone concentrations at eight Detroit area ozone monitors for August 2005.

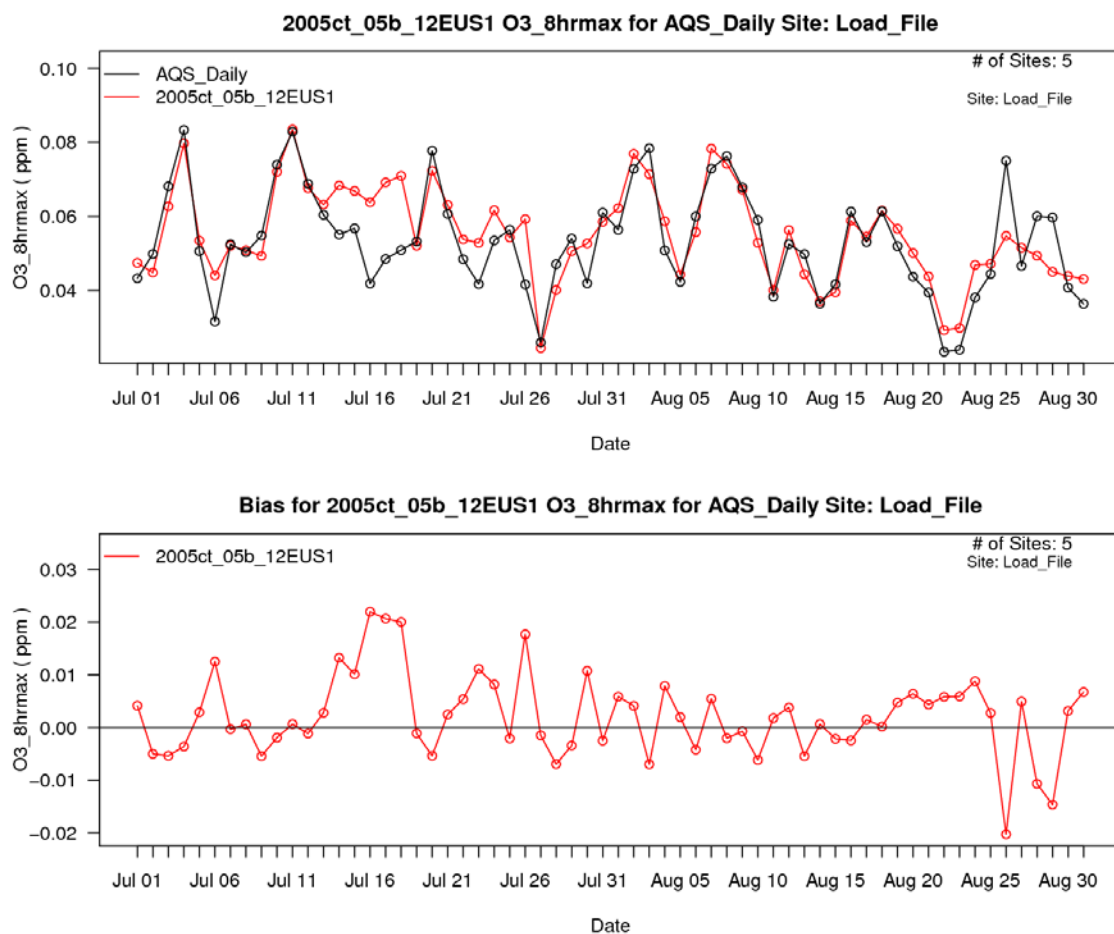


Figure S9. Time series of measured and modeled average 8-hr daily maximum ozone concentrations at eight Detroit area ozone monitors for July and August 2005.

S3. Choosing X, Y, and Z Cutpoints to Minimize Error

Error in HDDM estimates of hourly ozone is defined here as the difference between HDDM concentration adjustments and modeled ozone at alternative NOx emissions levels. Based on equations 1-4 in the main manuscript, this can be calculated from Equations S-3 and S-4 for 50% NOx cuts:

$$\varepsilon = \Delta Ozone_{HDDM,50} - \Delta Ozone_{BF,50} \quad \text{Equation S-3}$$

$$\varepsilon = \frac{-X}{100} \times S_{NOx_base} + \frac{X^2}{2 \times 100^2} \times S_{NOx_base}^2 - \frac{2(50-X)}{100} \times S_{NOx_{50}\%cut} + \frac{(2 \times (50-X))^2}{2 \times 100^2} \times S_{NOx_{50}\%cut}^2 - \Delta Ozone_{BF,50}$$

$$\quad \text{Equation S-4}$$

Equation S-4 can be rearranged to appear in the form: $AX^2 + BX + C$:

$$\varepsilon = \left(\frac{S_{NOx_base}^2}{2 \times 100^2} + \frac{4 \times S_{NOx_{50}\%cut}^2}{2 \times 100^2} \right) X^2 + \left(\frac{-S_{NOx_base}}{100} + \frac{2 \times S_{NOx_{50}\%cut}}{100} - \frac{400 \times S_{NOx_{50}\%cut}^2}{2 \times 100^2} \right) X + \left(-S_{NOx_{50}\%cut} + \frac{S_{NOx_{50}\%cut}^2}{2} - \Delta Ozone_{BF,50} \right)$$

$$\quad \text{Equation S-5}$$

$$A = \left(\frac{S_{NOx_base}^2}{2 \times 100^2} + \frac{4 \times S_{NOx_{50}\%cut}^2}{2 \times 100^2} \right)$$

$$\quad \text{Equation S-6}$$

$$B = \left(\frac{-S_{NOx_base}}{100} + \frac{2 \times S_{NOx_{50}\%cut}}{100} - \frac{400 \times S_{NOx_{50}\%cut}^2}{2 \times 100^2} \right)$$

$$\quad \text{Equation S-7}$$

$$C = \left(-S_{NOx_{50}\%cut} + \frac{S_{NOx_{50}\%cut}^2}{2} - \Delta Ozone_{BF,50} \right)$$

$$\quad \text{Equation S-8}$$

Next, the error is squared, summed over all points (since error can be calculated for each hourly ozone value at each monitoring location), and the derivative is set to 0 to determine X which gives the least squares error (Equations S-9, S-10, and S-11)

$$\varepsilon^2 = A^2 X^4 + 2ABX^3 + (2AC + B^2)X^2 + 2BCX + C^2 \quad \text{Equation S-9}$$

$$\sum \varepsilon^2 = (\sum A^2)X^4 + (\sum 2AB)X^3 + (\sum 2AC + B^2)X^2 + (\sum 2BC)X + \sum C^2 \quad \text{Equation S-10}$$

$$(\sum \varepsilon^2)' = (4 \sum A^2)X^3 + (3 \sum 2AB)X^2 + (2 \sum 2AC + B^2)X + (\sum 2BC) = 0 \quad \text{Equation S-11}$$

The value of X that gives the least squares error will occur at one of the 3 roots of the trinomial in Equation S-11 or at 0 or 50. All real roots, 0, and 50 were plugged into equation S-10 and X was set to the value which gave the lowest error in each city.

An analogous procedure was followed to determine Y using the 75% NOx cut brute force simulation and Equations S-12 through S-18..

$$\varepsilon = \frac{-X}{100} \times S_{NOx_base} + \frac{X^2}{2 \times 100^2} \times S_{NOx_base}^2 - \frac{2Y}{100} \times S_{NOx_{50}\%cut} + \frac{4Y^2}{2 \times 100^2} \times S_{NOx_{50}\%cut}^2 - \frac{4(100-(X+Y))}{100} \times S_{NOx_{75}\%cut} + \frac{(4(100-(X+Y)))^2}{2 \times 100^2} \times S_{NOx_{75}\%cut}^2 - \Delta Ozone_{BF,75}$$

$$\quad \text{Equation S-12}$$

$$\varepsilon^2 = A^2Y^4 + 2ABY^3 + (2AC + B^2)Y^2 + 2BCY + C^2 \quad \text{Equation S-13}$$

$$A = \left(\frac{4 \times S_{NOx50\%cut}^2}{2 \times 100^2} + \frac{16 \times S_{NOx75\%cut}^2}{2 \times 100^2} \right) \quad \text{Equation S-14}$$

$$B = \left(\frac{-2 \times S_{NOx50\%cut}}{100} + \frac{4 \times S_{NOx75\%cut}}{100} - \frac{32 \times (75-X) S_{NOx75\%cut}^2}{2 \times 100^2} \right) \quad \text{Equation S-15}$$

$$C = \left(\frac{-X}{100} S_{NOx_base} + \frac{X^2}{2 \times 100^2} S_{NOx_base}^2 - \frac{4 \times (75-X)}{100} S_{NOx75\%cut} + \frac{16 \times (75-X)^2}{2 \times 100^2} S_{NOx75\%cut}^2 - \Delta Ozone_{BF,75} \right) \quad \text{Equation S-16}$$

$$\Sigma \varepsilon^2 = (\Sigma A^2)Y^4 + (\Sigma 2AB)Y^3 + (\Sigma 2AC + B^2)Y^2 + (\Sigma 2BC)Y + \Sigma C^2 \quad \text{Equation S-17}$$

$$(\Sigma \varepsilon^2)' = (4 \Sigma A^2)Y^3 + (3 \Sigma 2AB)Y^2 + (2 \Sigma 2AC + B^2)Y + (\Sigma 2BC) = 0 \quad \text{Equation S-18}$$

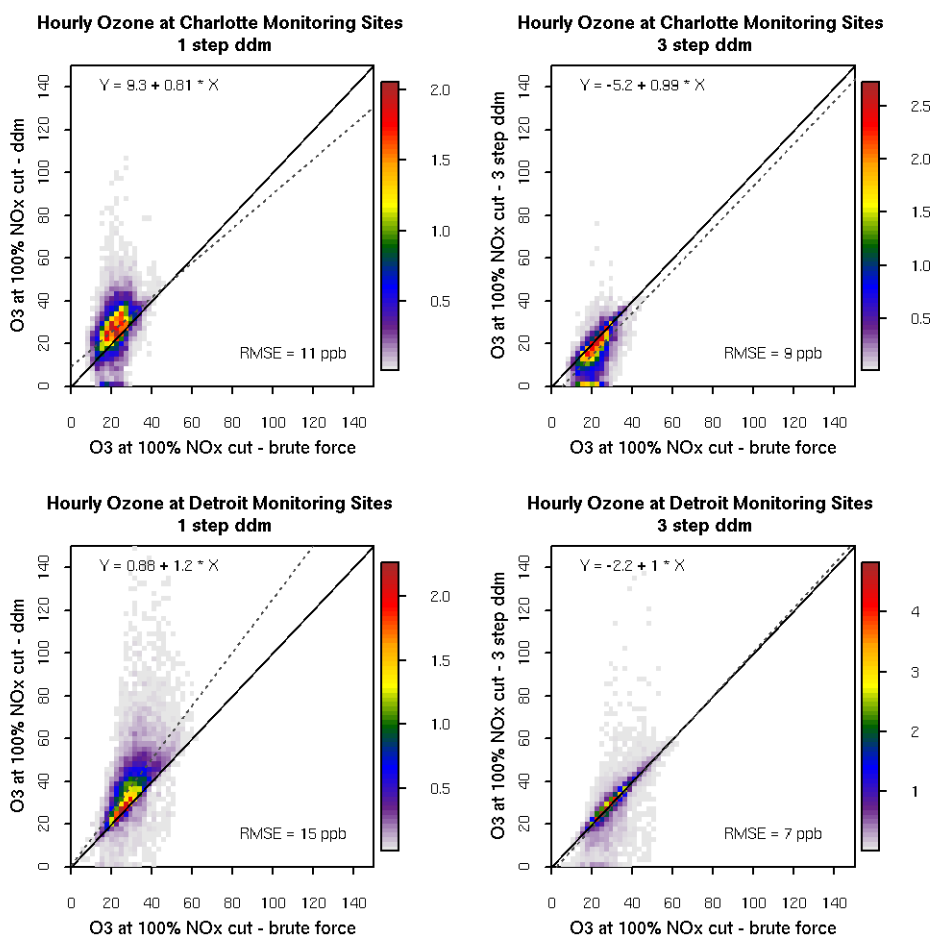


Figure S10. Density scatter plots comparing ozone predictions using DDM sensitivities to 100% NO_x cuts to model predictions from runs with brute force emissions cuts at Charlotte (top) and Detroit (bottom) sites. Colors indicate the percentage of points that fall at each spot on the plot. One step DDM adjustment results are shown in left-hand plots and three step DDM adjustment results are shown in right-hand plots.

S4. Ozone Distributions for Simultaneous NO_x and VOC Emissions Reductions Applied to Lower the 4th Highest MDA8

We explore the effects of simultaneous VOC and NO_x cuts on ozone concentrations in Detroit. For simplicity, we decrease NO_x and VOC values by equal percentages and we apply the three step methodology as described above for the NO_x only case. VOC sensitivities are important in Detroit at some times and locations in the base simulation. However, in the 50% and 75% NO_x cut simulations, the entire Detroit metro area becomes extremely NO_x limited and VOC sensitivities are small. This switch to an entirely NO_x limited regime might not be as extreme under both NO_x and VOC cuts; therefore, the influence of VOC emissions reductions is likely underestimated with this approach. Future work could use DDM simulations with simultaneous NO_x and VOC cuts to address this issue.

The multi-step HDDM adjustment approach requires a 62% NO_x cut or a 51% NO_x and VOC cut for Detroit to reduce the 4th highest modeled MDA8 to 75 ppb. As seen in Table S3 and Figure S11 compared to Figure 3, the addition of VOC cuts have little impact on the overall predicted ozone distribution for the case of reducing the 4th highest MDA8 to 75 ppb in Detroit. However, as stated above, the technique employed here likely underestimates the impact of VOC emissions reductions because the 50% cut DDM simulations were performed for NO_x cuts instead of simultaneous NO_x and VOC cuts.

When applying sensitivities derived from linear regressions to observed data, the multi-step HDDM adjustment approach a 55% NO_x cut or a 52% NO_x and VOC cut for Detroit to reduce the 4th highest MDA8 to 75 ppb. Results from the observation-based HDDM adjustments are shown in Table S3 and in Figures 5 and S12.

Table S3. Modeled and observed fourth highest 8-hr daily maximum ozone values for Detroit area monitoring sites during July-August 2005. Urban sites are shaded in gray.

Monitor	Modeled 4 th high 8- hr daily max ozone (ppb)	HDDM adjustment of modeled data: 4 th high 8-hr daily max ozone (ppb). NO _x cuts only	HDDM adjustment of modeled data: 4 th high 8-hr daily max ozone (ppb). NO _x and VOC cuts	Observed 4 th high 8- hr daily max ozone (ppb)	HDDM adjustment of observed data: 4 th high 8-hr daily max ozone (ppb). NO _x cuts only	HDDM adjustment of observed data: 4 th high 8-hr daily max ozone (ppb). NO _x and VOC cuts
260910007	73	57	61	74	60	61
260990009	83	67	70	82	70	70
260991003	80	73	75	83	75	75
261250001	80	75	75	75	69	68
261470005	81	63	67	78	65	66
261610008	77	66	65	70	61	60
261630001	77	71	70	76	67	66
261630019	85	72	72	80	70	69

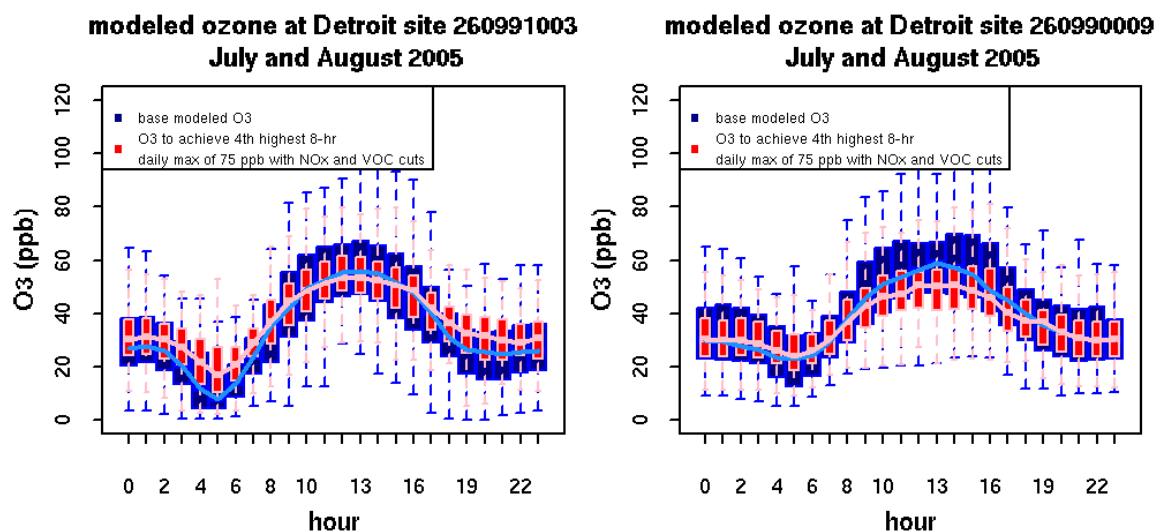
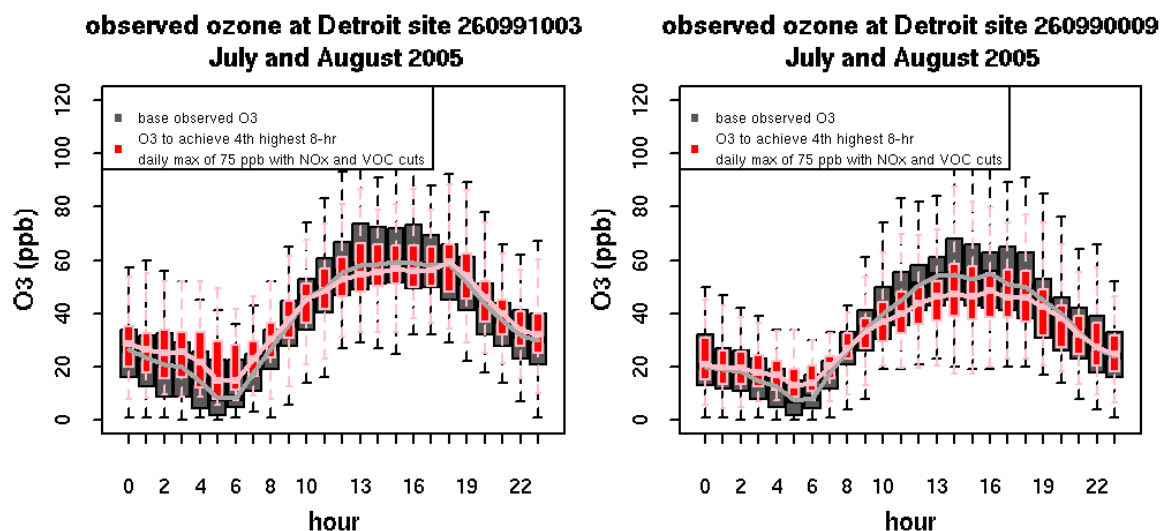


Figure S11. Hourly modeled ozone distributions for an urban (left) and a non-urban (right) site in Detroit for July and August 2005. Centerline shows the median values, boxes show the 25th and 75th percentiles and whiskers extent to 1.5 times the interquartile range. Values from the base model run are shown in blue while values adjusted using NO_x and VOC HDDM sensitivities to reach 75 ppb for the 4th highest 8-hr daily maximum at the highest site in the area are shown in red/pink.



Figures S12. Hourly observed ozone distributions for an urban (left) and a non-urban (right) site in Detroit for July and August 2005. Centerline shows the median values, boxes show the 25th and 75th percentiles and whiskers extent to 1.5 times the interquartile range. Values from the base model run are

shown in black while values adjusted using NOx and VOC HDDM sensitivities to reach 75 ppb for the 4th highest 8-hr daily maximum at the highest site in the area are shown in red/pink.

S4. Data for Linear Regressions of NOx and VOC sensitivities

First order sensitivities are predicted based on linear regressions developed for each site and hour of the day between sensitivities and hourly ozone in the base modeling run. First order NOx and VOC sensitivities in the base, 50% NOx cut, and 75% NOx cut simulations were generally correlated with ozone in that hour. Correlation coefficients varied by site, hour, model run, and sensitivity type for each city.

In Detroit, first order NOx and VOC sensitivities had correlation coefficients with ozone in the range of 0.3 to 0.6 (25th to 75th percentile values). Correlations for NOx sensitivities in the 50% and 75% NOx cut runs with base simulation ozone were somewhat higher (0.75 to 0.8). VOC sensitivity coefficient correlations with ozone went down in the two NOx cut simulations as VOC sensitivity values themselves became quite small. Second order sensitivities were generally negatively correlated with first order sensitivities. Correlation coefficient had magnitudes in the range of 0.3 to 0.8 (25th to 75th percentile values).

Correlations between first order NOx sensitivities and hourly ozone were somewhat higher in Charlotte, generally ranging from 0.6 to 0.8 (25th to 75th percentile values). Second order NOx sensitivities in Charlotte were also negatively correlated with first order NOx sensitivities. Correlations between first and second order NOx sensitivities in Charlotte for all three simulations ranged in magnitude from 0.5 to 0.8 (25th to 75th percentile values).

In cases where the correlation was low, the linear regressions give a horizontal line meaning that there is little change in sensitivity with ozone concentration and in those cases the technique essentially estimates a single average ozone response independent of the ozone concentration. Figures S13 and S14 show the relationships between first order NOx sensitivities and hourly ozone and between second and first order NOx sensitivities at each Charlotte monitoring site for all 2pm hours in July and August 2005. Tables S4 to S24 at the end of the supplemental information show the linear regression parameters and standard error values for each site, hour, simulation, and sensitivity coefficient.

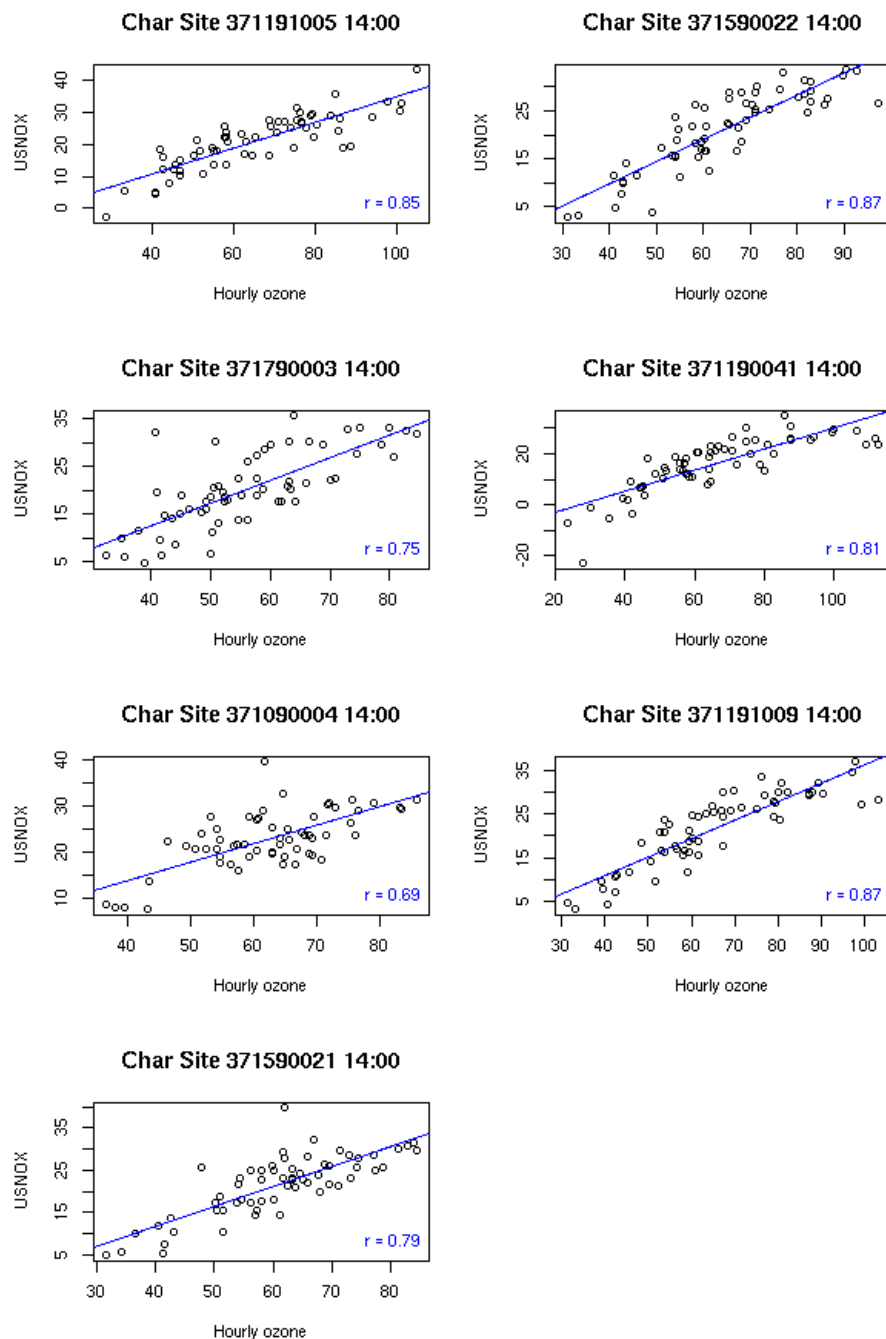


Figure S13. Relationship between first order NO_x sensitivities ("USNOX") and hourly ozone at Charlotte monitoring locations at 2pm. Linear regression lines are shown in blue. Results are from the base modeling run.

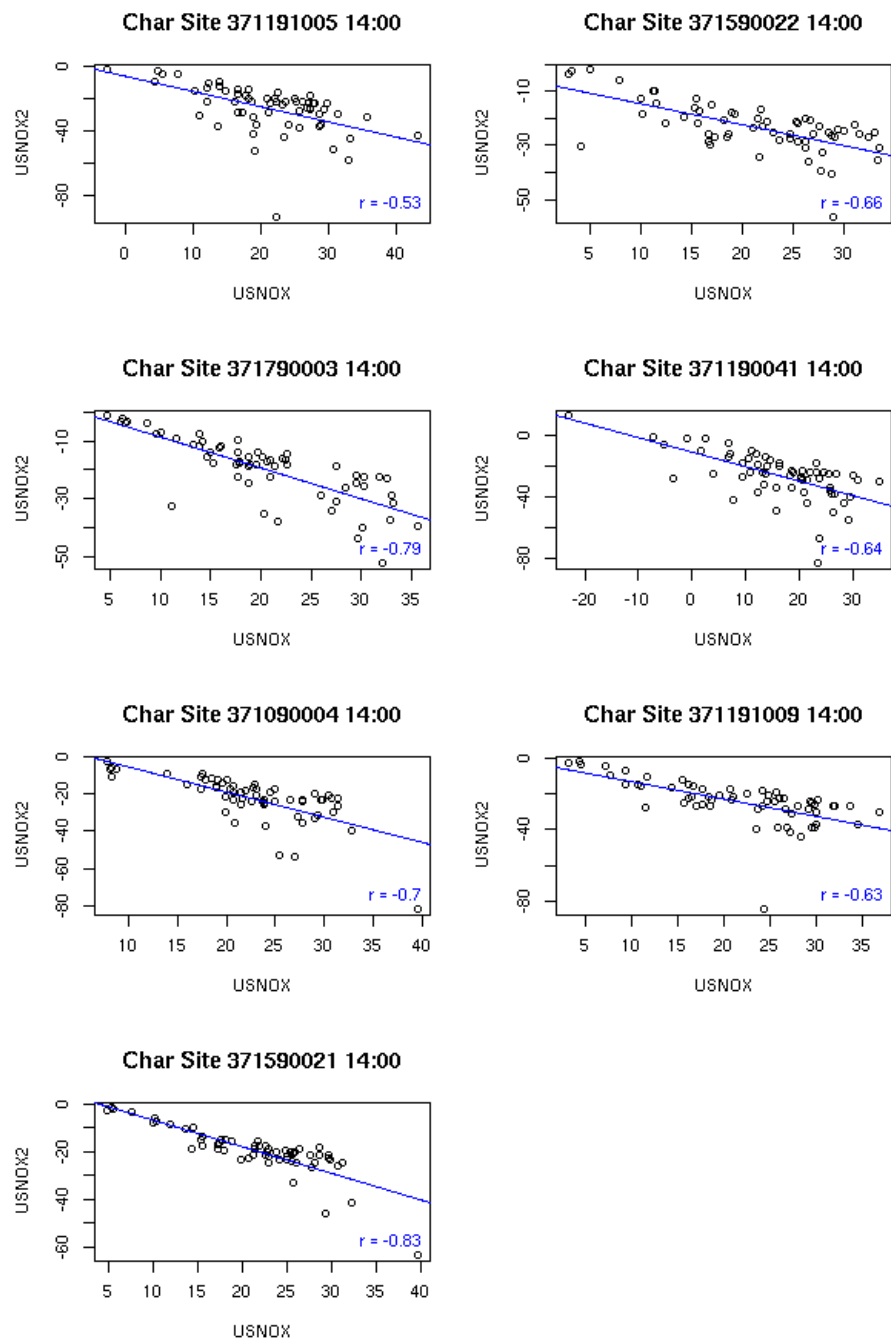


Figure S14. Relationship between second order NO_x sensitivities ("USNOX2") and first order NO_x sensitivities ("USNOX") at Charlotte monitoring locations at 2pm. Linear regression lines are shown in blue. Results are from the base modeling run.

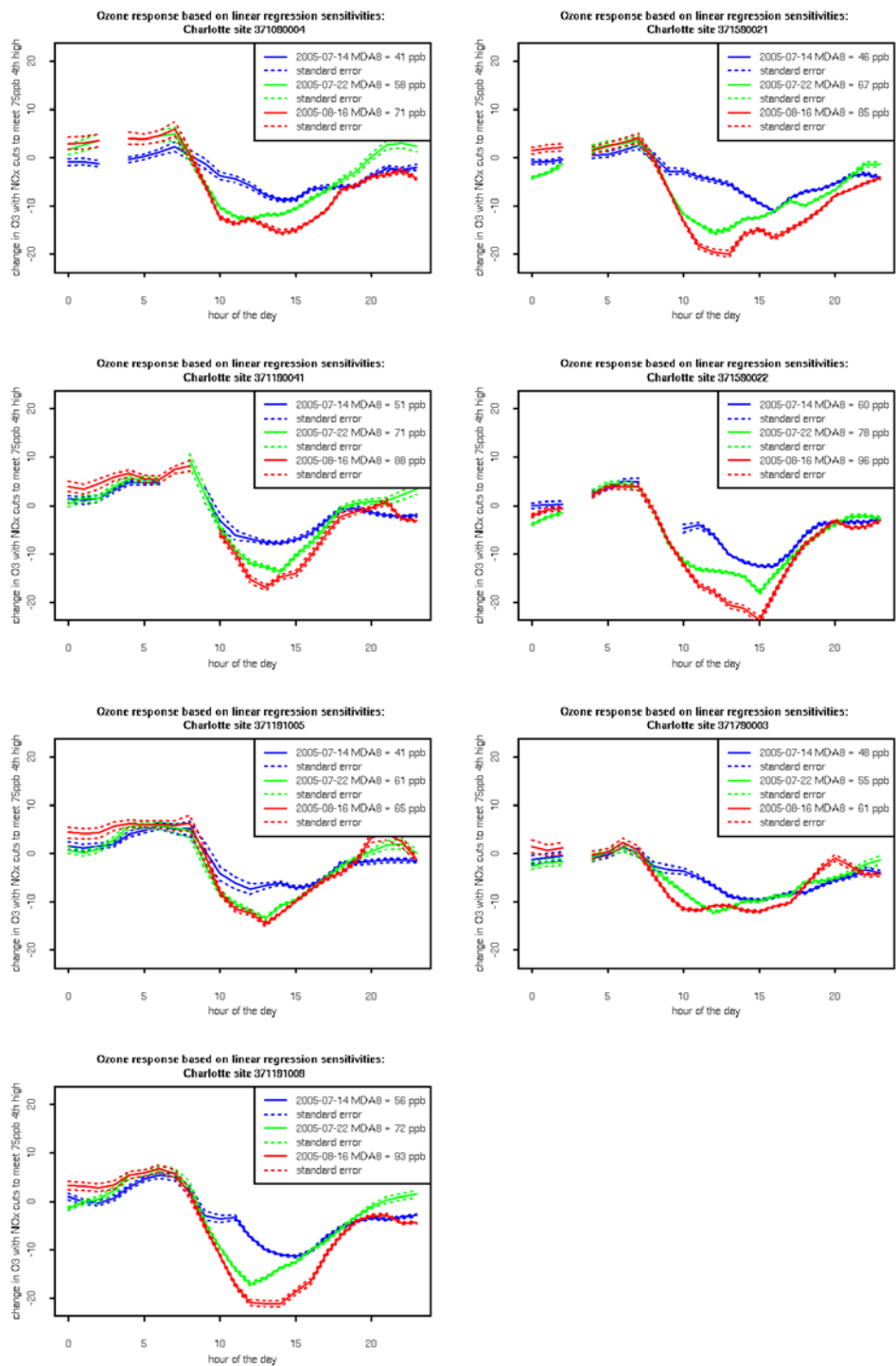


Figure S15. Predicted change in observed ozone to meet 4th highest MDA8 = 75 with NO_x cuts for Charlotte sites on 3 days with different MDA8 values. Solid lines show predicted ozone change while dotted lines outline the propagated standard error in these estimates based on the standard error in each predicted sensitivity coefficient.

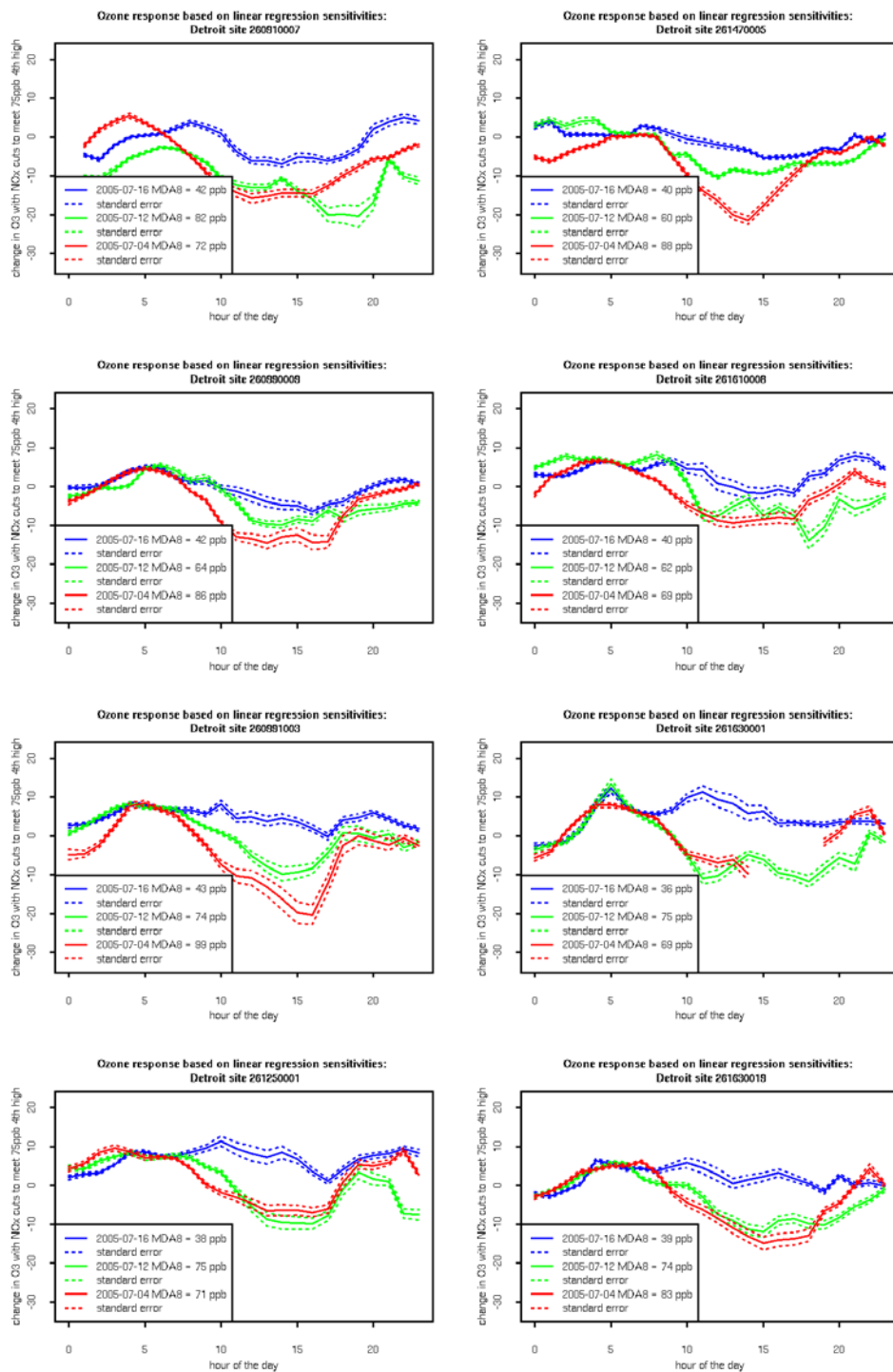


Figure S16. Predicted change in observed ozone to meet 4th highest MDA8 = 75 with NO_x cuts for Detroit sites on 3 days with different MDA8 values. Solid lines show predicted ozone change while dotted lines outline the propagated standard error in these estimates based on the standard error in each predicted sensitivity coefficient.

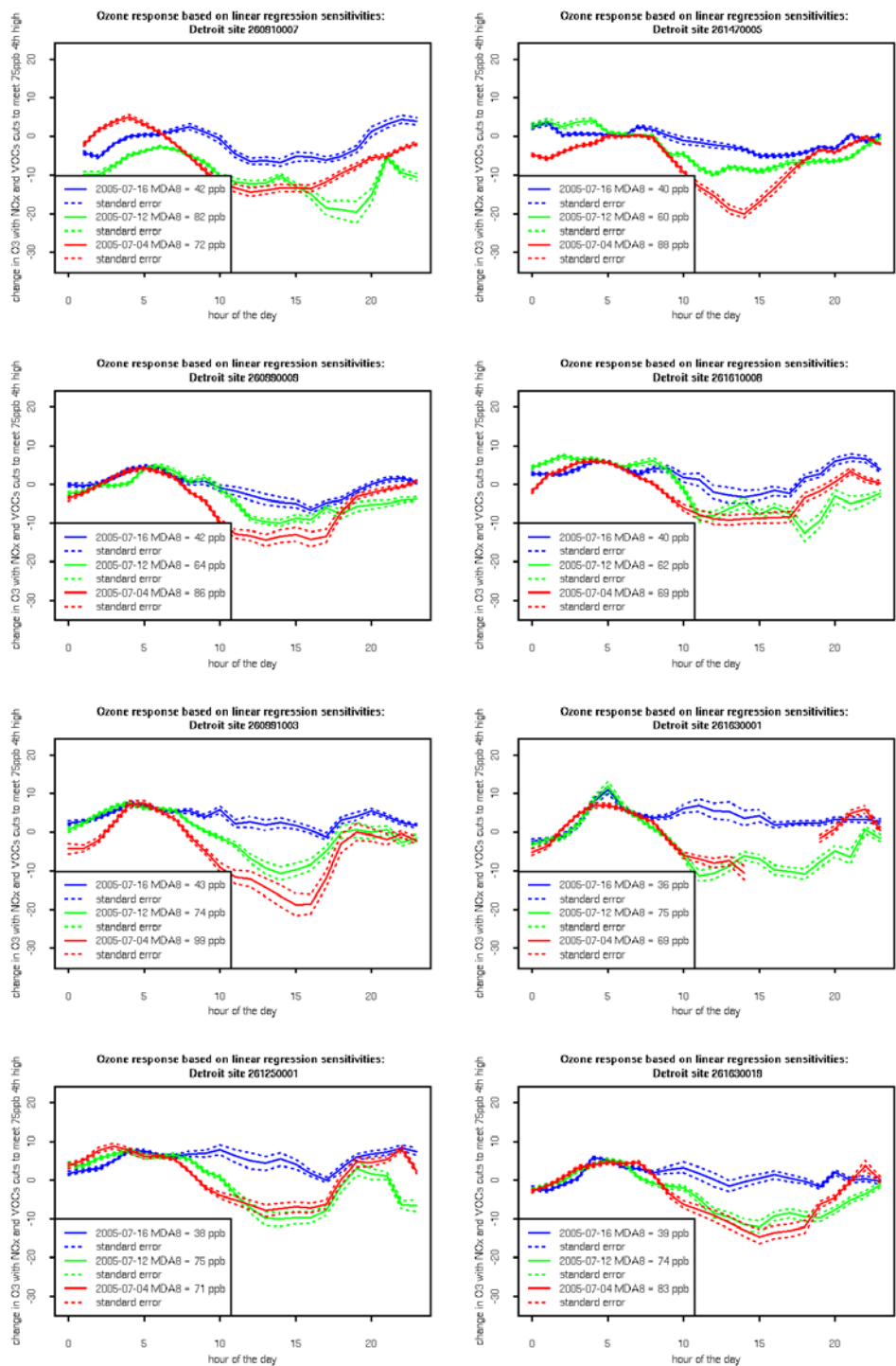


Figure S17. Predicted change in observed ozone to meet 4th highest MDA8 = 75 with NO_x and VOC cuts for Detroit sites on 3 days with different MDA8 values. Solid lines show predicted ozone change while dotted lines outline the propagated standard error in these estimates based on the standard error in each predicted sensitivity coefficient.

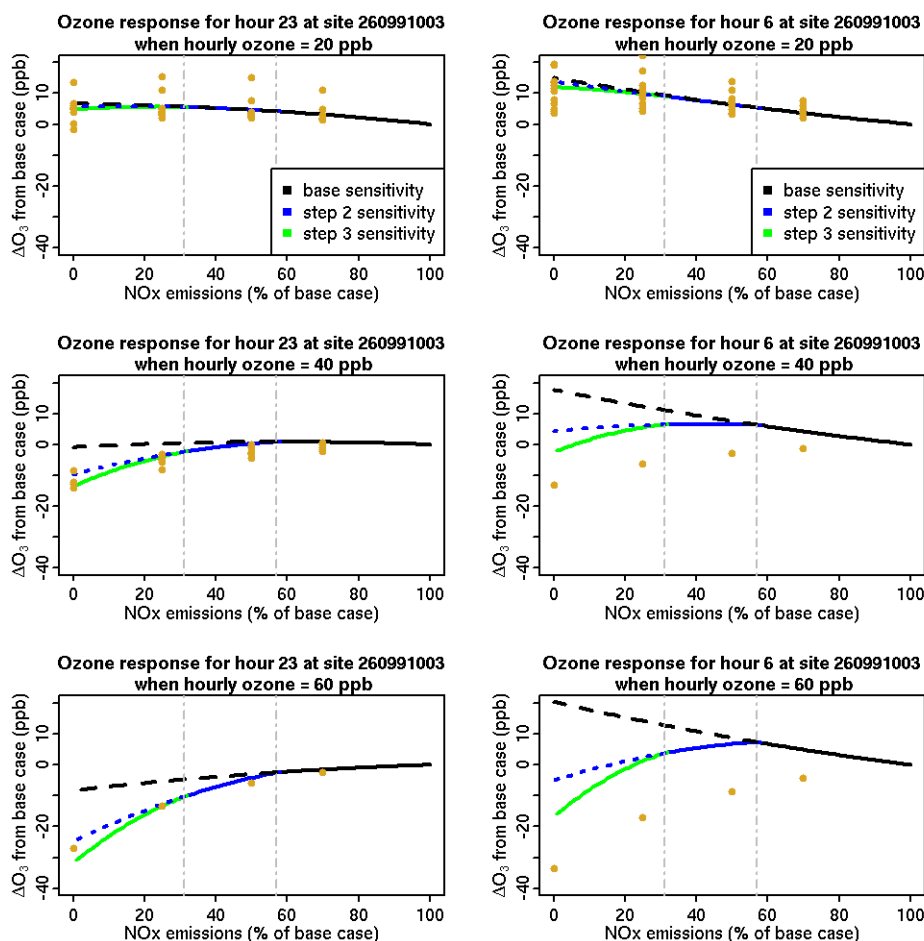


Figure S18. Depiction of 3-step DDM adjustment approach. Each panel shows the change in ozone over the entire range of NO_x reductions. The solid line shows the path followed for the 3-step DDM adjustment, while the dotted lines show changes in ozone that would be predicted if the based or step 2 sensitivities were used down to 0 NO_x emissions. Orange dots show change in ozone from model runs employing brute force NO_x emissions cuts on the days with modeled hourly ozone within 3ppb of the value being analyzed for each monitoring site. Right panels show trajectories for 3 different ozone concentrations at Detroit site 260991003 at 11pm. Left panels show trajectories for 3 different ozone concentrations at Detroit site 260991003 at 6am.

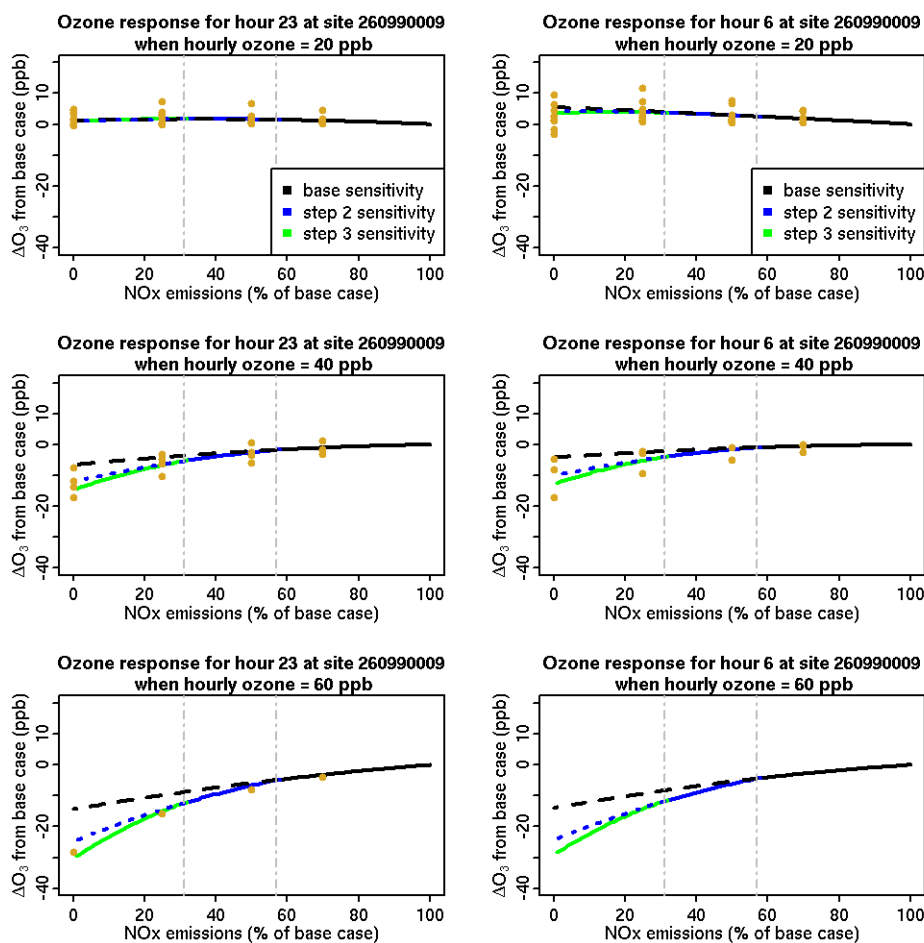


Figure S19. Depiction of 3-step DDM adjustment approach. Each panel shows the change in ozone over the entire range of NO_x reductions. The solid line shows the path followed for the 3-step DDM adjustment, while the dotted lines show changes in ozone that would be predicted if the based or step 2 sensitivities were used down to 0 NO_x emissions. Orange dots show change in ozone from model runs employing brute force NO_x emissions cuts on the days with modeled hourly ozone within 3ppb of the value being analyzed for each monitoring site. Right panels show trajectories for 3 different ozone concentrations at Detroit site 260990009 at 11pm. Left panels show trajectories for 3 different ozone concentrations at Detroit site 260990009 at 6am.

References

1. Yang, Y. J.; Wilkinson, J. G.; Russell, A. G., Fast, direct sensitivity analysis of multidimensional photochemical models. *Environ. Sci. Technol.* **1997**, 31 (10), 2859-2868.
2. Hakami, A.; Odman, M. T.; Russell, A. G., High-order, direct sensitivity analysis of multidimensional air quality models. *Environ. Sci. Technol.* **2003**, 37 (11), 2442-2452.

Tables Summarizing Linear Regression Data

Table S4. Summary of linear regression data for first order NO_x sensitivities at Charlotte sites in the base model run ($S_{NO_x} = \text{slope} \times O_3 + \text{intercept}$).

Site	Hour	Intercept		Slope		Correlation Coefficient
		Value	Standard Error	Value	Standard Error	
371191005	0	-11.25	2.93	0.46	0.08	0.60
371790003	0	-5.91	4.04	0.42	0.10	0.47
371090004	0	-8.34	3.30	0.46	0.08	0.60
371590021	0	-5.41	1.88	0.36	0.05	0.71
371590022	0	-8.92	2.55	0.40	0.07	0.61
371190041	0	-10.91	3.00	0.41	0.08	0.55
371191009	0	-8.99	2.25	0.40	0.06	0.65
371191005	1	-10.47	2.75	0.45	0.08	0.61
371790003	1	-5.30	3.66	0.39	0.09	0.47
371090004	1	-8.30	3.26	0.46	0.08	0.59
371590021	1	-4.43	1.75	0.33	0.04	0.69
371590022	1	-8.72	2.38	0.40	0.06	0.63
371190041	1	-10.48	2.89	0.40	0.08	0.54
371191009	1	-8.37	2.18	0.39	0.06	0.65
371191005	2	-10.76	2.65	0.45	0.08	0.60
371790003	2	-4.92	3.38	0.37	0.09	0.47
371090004	2	-9.34	3.34	0.48	0.09	0.59
371590021	2	-5.03	1.89	0.34	0.05	0.66
371590022	2	-7.49	2.48	0.36	0.07	0.56
371190041	2	-11.77	2.72	0.41	0.08	0.55
371191009	2	-7.64	2.26	0.36	0.06	0.59
371191005	3	-14.11	2.38	0.50	0.07	0.66
371790003	3	-3.65	3.04	0.31	0.08	0.43
371090004	3	-10.07	3.30	0.50	0.09	0.59
371590021	3	-5.68	2.09	0.35	0.06	0.62
371590022	3	-9.32	2.64	0.37	0.08	0.52
371190041	3	-16.29	2.31	0.46	0.07	0.62
371191009	3	-9.06	2.38	0.36	0.07	0.55
371191005	4	-14.86	2.08	0.42	0.07	0.61
371790003	4	-2.05	2.65	0.23	0.08	0.37
371090004	4	-10.63	3.13	0.49	0.09	0.59
371590021	4	-6.22	2.27	0.34	0.06	0.56
371590022	4	-13.75	2.37	0.42	0.08	0.58
371190041	4	-16.27	1.98	0.33	0.08	0.49

371191009	4	-14.52	2.15	0.44	0.07	0.63
371191005	5	-13.45	1.91	0.32	0.07	0.49
371790003	5	-3.71	2.40	0.24	0.07	0.40
371090004	5	-10.50	2.75	0.46	0.08	0.59
371590021	5	-6.72	2.29	0.33	0.07	0.53
371590022	5	-16.21	1.87	0.46	0.07	0.67
371190041	5	-11.61	2.09	0.09	0.09	0.13
371191009	5	-15.24	1.82	0.41	0.06	0.64
371191005	6	-13.53	2.01	0.32	0.07	0.50
371790003	6	-8.09	2.76	0.35	0.08	0.49
371090004	6	-11.66	3.02	0.47	0.09	0.57
371590021	6	-9.13	2.31	0.38	0.07	0.59
371590022	6	-16.35	2.10	0.47	0.07	0.66
371190041	6	-11.30	2.20	0.05	0.09	0.07
371191009	6	-16.35	1.96	0.45	0.07	0.66
371191005	7	-13.75	3.05	0.32	0.08	0.45
371790003	7	-7.22	3.81	0.32	0.09	0.40
371090004	7	-15.23	4.02	0.53	0.10	0.58
371590021	7	-13.12	3.07	0.45	0.07	0.62
371590022	7	-18.08	3.11	0.49	0.08	0.62
371190041	7	-18.44	2.75	0.27	0.09	0.37
371191009	7	-17.87	2.87	0.46	0.07	0.62
371191005	8	-16.24	4.69	0.40	0.10	0.46
371790003	8	-1.90	4.05	0.24	0.08	0.36
371090004	8	-14.32	3.92	0.52	0.08	0.65
371590021	8	-10.36	3.79	0.41	0.08	0.57
371590022	8	-16.61	4.55	0.45	0.09	0.54
371190041	8	-26.96	4.56	0.47	0.11	0.49
371191009	8	-14.88	4.07	0.40	0.08	0.52
371191005	9	-6.70	6.09	0.26	0.11	0.29
371790003	9	-1.90	3.67	0.31	0.07	0.50
371090004	9	-11.08	3.69	0.50	0.07	0.70
371590021	9	-6.42	3.08	0.40	0.06	0.68
371590022	9	-3.96	4.77	0.28	0.08	0.40
371190041	9	-11.92	6.66	0.20	0.13	0.20
371191009	9	-5.65	4.21	0.30	0.07	0.46
371191005	10	0.79	5.44	0.21	0.09	0.29
371790003	10	-4.29	3.13	0.39	0.06	0.67
371090004	10	-8.35	3.52	0.48	0.06	0.71
371590021	10	-8.99	2.65	0.48	0.04	0.81

371590022	10	-5.06	3.70	0.37	0.06	0.62
371190041	10	-0.40	7.23	0.10	0.12	0.11
371191009	10	-8.60	2.90	0.43	0.05	0.76
371191005	11	-0.54	4.41	0.28	0.07	0.48
371790003	11	-6.44	2.78	0.45	0.05	0.77
371090004	11	-5.63	3.40	0.45	0.06	0.71
371590021	11	-10.83	2.55	0.52	0.04	0.85
371590022	11	-10.87	2.80	0.50	0.04	0.82
371190041	11	1.31	5.53	0.16	0.08	0.24
371191009	11	-10.88	2.41	0.50	0.04	0.86
371191005	12	-2.77	3.39	0.35	0.05	0.67
371790003	12	-6.42	2.85	0.46	0.05	0.77
371090004	12	-3.67	3.79	0.42	0.06	0.65
371590021	12	-11.15	2.63	0.53	0.04	0.85
371590022	12	-11.95	2.68	0.52	0.04	0.85
371190041	12	-2.73	3.18	0.28	0.05	0.63
371191009	12	-10.12	2.44	0.50	0.04	0.86
371191005	13	-4.97	2.36	0.40	0.03	0.83
371790003	13	-6.13	3.15	0.47	0.05	0.74
371090004	13	-2.71	3.84	0.41	0.06	0.64
371590021	13	-9.17	2.86	0.50	0.05	0.81
371590022	13	-10.68	2.50	0.50	0.04	0.86
371190041	13	-7.02	2.56	0.36	0.04	0.79
371191009	13	-7.91	2.24	0.46	0.03	0.87
371191005	14	-5.24	2.17	0.40	0.03	0.85
371790003	14	-6.30	3.13	0.47	0.05	0.75
371090004	14	-2.69	3.39	0.41	0.05	0.70
371590021	14	-6.88	2.89	0.47	0.05	0.79
371590022	14	-8.97	2.26	0.47	0.03	0.87
371190041	14	-11.10	2.63	0.41	0.04	0.81
371191009	14	-6.31	2.07	0.43	0.03	0.87
371191005	15	-4.97	2.58	0.37	0.04	0.77
371790003	15	-6.67	2.70	0.48	0.05	0.79
371090004	15	-2.82	2.94	0.41	0.05	0.75
371590021	15	-4.56	2.57	0.43	0.04	0.80
371590022	15	-8.02	2.17	0.44	0.03	0.86
371190041	15	-15.66	3.34	0.46	0.05	0.75
371191009	15	-5.60	1.92	0.40	0.03	0.87
371191005	16	-6.43	3.10	0.35	0.05	0.65
371790003	16	-5.99	2.17	0.47	0.04	0.83

371090004	16	-2.40	2.63	0.40	0.04	0.77
371590021	16	-2.85	2.25	0.41	0.04	0.81
371590022	16	-7.23	2.01	0.40	0.03	0.85
371190041	16	-18.63	3.76	0.48	0.07	0.69
371191009	16	-6.35	1.72	0.38	0.03	0.87
371191005	17	-9.93	3.02	0.35	0.06	0.61
371790003	17	-5.53	2.08	0.45	0.04	0.81
371090004	17	-2.72	2.35	0.39	0.04	0.79
371590021	17	-2.20	1.96	0.39	0.03	0.83
371590022	17	-8.26	1.87	0.37	0.03	0.83
371190041	17	-17.64	3.43	0.39	0.07	0.56
371191009	17	-8.38	1.87	0.37	0.03	0.82
371191005	18	-13.11	2.76	0.37	0.06	0.62
371790003	18	-5.12	2.15	0.44	0.05	0.78
371090004	18	-3.10	2.53	0.37	0.04	0.74
371590021	18	-1.50	1.83	0.37	0.03	0.82
371590022	18	-9.73	2.21	0.36	0.04	0.73
371190041	18	-14.87	3.01	0.25	0.08	0.39
371191009	18	-9.39	2.30	0.34	0.05	0.69
371191005	19	-14.61	2.92	0.40	0.07	0.58
371790003	19	-5.48	2.43	0.44	0.05	0.73
371090004	19	-5.41	2.77	0.40	0.05	0.71
371590021	19	-2.25	1.58	0.36	0.03	0.84
371590022	19	-10.71	2.62	0.36	0.06	0.63
371190041	19	-15.09	3.12	0.29	0.09	0.40
371191009	19	-10.30	2.39	0.35	0.05	0.65
371191005	20	-14.65	3.35	0.42	0.09	0.52
371790003	20	-5.70	2.86	0.44	0.06	0.66
371090004	20	-8.04	2.66	0.44	0.05	0.73
371590021	20	-4.92	1.63	0.39	0.03	0.83
371590022	20	-10.24	2.70	0.35	0.06	0.59
371190041	20	-14.95	3.22	0.36	0.09	0.46
371191009	20	-9.86	2.37	0.35	0.06	0.63
371191005	21	-13.55	3.70	0.42	0.10	0.48
371790003	21	-5.03	3.21	0.42	0.07	0.59
371090004	21	-9.17	2.51	0.46	0.05	0.75
371590021	21	-5.93	1.91	0.40	0.04	0.78
371590022	21	-9.64	2.52	0.35	0.06	0.60
371190041	21	-13.26	3.27	0.38	0.09	0.48
371191009	21	-10.26	2.46	0.38	0.06	0.63

371191005	22	-11.55	3.57	0.40	0.10	0.48
371790003	22	-4.33	3.55	0.39	0.08	0.52
371090004	22	-9.10	2.69	0.47	0.06	0.71
371590021	22	-5.04	2.29	0.37	0.05	0.68
371590022	22	-8.18	2.66	0.34	0.07	0.56
371190041	22	-10.69	3.22	0.36	0.09	0.48
371191009	22	-11.00	2.46	0.42	0.06	0.66
371191005	23	-10.76	3.16	0.42	0.08	0.54
371790003	23	-5.93	4.05	0.43	0.10	0.49
371090004	23	-8.52	3.11	0.46	0.07	0.64
371590021	23	-5.32	2.29	0.37	0.05	0.66
371590022	23	-8.40	2.92	0.37	0.07	0.54
371190041	23	-9.49	2.97	0.36	0.08	0.50
371191009	23	-10.50	2.52	0.43	0.07	0.64

Table S5. Summary of linear regression data for first order NO_x sensitivities at Charlotte sites in the 50% NO_x cut model run ($S_{NOx} = \text{slope} \times O_3 + \text{intercept}$).

Site	Hour	Intercept		Slope		Correlation Coefficient
		Value	Standard Error	Value	Standard Error	
371191005	0	-6.94	1.77	0.41	0.05	0.74
371790003	0	-5.27	2.76	0.39	0.07	0.59
371090004	0	-5.12	2.03	0.38	0.05	0.71
371590021	0	-5.31	1.45	0.38	0.04	0.81
371590022	0	-5.80	1.75	0.38	0.05	0.73
371190041	0	-6.70	1.93	0.38	0.05	0.69
371191009	0	-5.40	1.62	0.36	0.04	0.74
371191005	1	-6.47	1.76	0.40	0.05	0.73
371790003	1	-3.73	2.63	0.34	0.07	0.55
371090004	1	-4.81	2.04	0.37	0.05	0.68
371590021	1	-4.28	1.38	0.34	0.04	0.78
371590022	1	-5.74	1.73	0.38	0.05	0.72
371190041	1	-6.14	1.95	0.37	0.05	0.66
371191009	1	-5.13	1.65	0.36	0.04	0.72
371191005	2	-6.09	1.74	0.39	0.05	0.70
371790003	2	-3.35	2.40	0.33	0.06	0.55
371090004	2	-5.34	2.19	0.38	0.06	0.66
371590021	2	-4.78	1.45	0.35	0.04	0.77

371590022	2	-4.89	1.81	0.35	0.05	0.67
371190041	2	-5.78	1.86	0.35	0.05	0.63
371191009	2	-4.50	1.70	0.34	0.05	0.67
371191005	3	-6.64	1.58	0.38	0.05	0.71
371790003	3	-2.44	2.10	0.29	0.06	0.55
371090004	3	-5.39	2.26	0.38	0.06	0.63
371590021	3	-4.55	1.63	0.35	0.04	0.71
371590022	3	-4.99	1.90	0.33	0.06	0.61
371190041	3	-7.12	1.50	0.34	0.05	0.67
371191009	3	-4.33	1.74	0.31	0.05	0.62
371191005	4	-7.11	1.44	0.35	0.05	0.68
371790003	4	-0.99	1.89	0.24	0.05	0.50
371090004	4	-4.90	2.20	0.36	0.06	0.61
371590021	4	-4.20	1.75	0.33	0.05	0.65
371590022	4	-5.59	1.65	0.31	0.05	0.60
371190041	4	-9.92	1.17	0.36	0.05	0.71
371191009	4	-6.01	1.49	0.32	0.05	0.66
371191005	5	-9.33	1.35	0.38	0.05	0.69
371790003	5	-0.63	1.71	0.21	0.05	0.47
371090004	5	-3.80	1.94	0.32	0.06	0.59
371590021	5	-3.20	1.70	0.28	0.05	0.59
371590022	5	-7.78	1.34	0.35	0.05	0.69
371190041	5	-11.76	1.19	0.36	0.05	0.67
371191009	5	-7.52	1.25	0.33	0.04	0.70
371191005	6	-10.75	1.41	0.41	0.05	0.72
371790003	6	-2.57	1.88	0.25	0.05	0.52
371090004	6	-5.48	2.13	0.36	0.06	0.60
371590021	6	-4.61	1.64	0.31	0.05	0.65
371590022	6	-9.21	1.50	0.38	0.05	0.71
371190041	6	-12.76	1.30	0.35	0.05	0.65
371191009	6	-9.52	1.34	0.38	0.04	0.74
371191005	7	-11.87	2.10	0.42	0.06	0.69
371790003	7	-5.45	2.17	0.33	0.05	0.63
371090004	7	-11.35	2.42	0.50	0.06	0.74
371590021	7	-9.68	2.01	0.44	0.05	0.76
371590022	7	-12.73	1.99	0.47	0.05	0.77
371190041	7	-16.81	1.74	0.45	0.06	0.72
371191009	7	-12.11	1.82	0.44	0.05	0.77
371191005	8	-13.74	2.78	0.47	0.06	0.72
371790003	8	-7.86	2.08	0.40	0.04	0.77

371090004	8	-10.14	2.20	0.47	0.04	0.81
371590021	8	-11.01	2.02	0.48	0.04	0.83
371590022	8	-11.94	2.64	0.46	0.05	0.75
371190041	8	-21.18	3.02	0.54	0.07	0.70
371191009	8	-11.83	2.23	0.45	0.05	0.79
371191005	9	-9.64	2.43	0.42	0.04	0.78
371790003	9	-7.87	2.00	0.41	0.04	0.82
371090004	9	-5.75	2.51	0.39	0.05	0.74
371590021	9	-10.16	2.18	0.46	0.04	0.84
371590022	9	-7.72	2.35	0.41	0.04	0.79
371190041	9	-12.89	3.52	0.40	0.07	0.62
371191009	9	-8.71	2.08	0.42	0.04	0.83
371191005	10	-7.72	2.00	0.41	0.03	0.85
371790003	10	-8.70	2.03	0.43	0.04	0.83
371090004	10	-3.38	2.65	0.35	0.05	0.70
371590021	10	-10.07	2.13	0.45	0.04	0.85
371590022	10	-9.31	2.26	0.44	0.04	0.84
371190041	10	-9.27	2.12	0.39	0.03	0.83
371191009	10	-9.97	2.26	0.45	0.04	0.84
371191005	11	-7.28	1.94	0.40	0.03	0.87
371790003	11	-8.48	2.09	0.43	0.04	0.83
371090004	11	-2.98	2.78	0.34	0.05	0.68
371590021	11	-10.72	2.05	0.46	0.03	0.87
371590022	11	-9.96	2.29	0.44	0.04	0.85
371190041	11	-9.07	1.65	0.41	0.02	0.91
371191009	11	-10.36	2.28	0.45	0.04	0.85
371191005	12	-8.15	2.06	0.42	0.03	0.87
371790003	12	-7.99	2.23	0.42	0.04	0.81
371090004	12	-3.06	3.25	0.34	0.05	0.63
371590021	12	-10.83	2.23	0.46	0.04	0.85
371590022	12	-9.58	2.18	0.43	0.03	0.86
371190041	12	-8.68	1.52	0.40	0.02	0.92
371191009	12	-9.61	1.99	0.43	0.03	0.88
371191005	13	-8.51	1.62	0.42	0.02	0.92
371790003	13	-7.66	2.42	0.42	0.04	0.79
371090004	13	-3.41	3.35	0.34	0.05	0.63
371590021	13	-9.36	2.50	0.43	0.04	0.81
371590022	13	-8.55	1.97	0.41	0.03	0.87
371190041	13	-9.17	1.33	0.40	0.02	0.94
371191009	13	-8.50	1.74	0.41	0.03	0.90

371191005	14	-8.26	1.40	0.41	0.02	0.93
371790003	14	-7.50	2.43	0.42	0.04	0.79
371090004	14	-3.85	2.98	0.35	0.05	0.69
371590021	14	-7.48	2.51	0.40	0.04	0.79
371590022	14	-6.97	1.80	0.39	0.03	0.88
371190041	14	-10.14	1.31	0.41	0.02	0.94
371191009	14	-7.23	1.70	0.39	0.03	0.89
371191005	15	-7.70	1.46	0.40	0.02	0.92
371790003	15	-7.61	2.18	0.42	0.04	0.82
371090004	15	-3.83	2.58	0.35	0.04	0.75
371590021	15	-5.60	2.19	0.38	0.04	0.81
371590022	15	-6.02	1.70	0.37	0.03	0.88
371190041	15	-11.30	1.45	0.42	0.02	0.92
371191009	15	-5.76	1.71	0.37	0.03	0.88
371191005	16	-7.22	1.56	0.39	0.03	0.88
371790003	16	-6.55	1.82	0.41	0.03	0.84
371090004	16	-2.80	2.26	0.34	0.04	0.77
371590021	16	-4.24	1.87	0.36	0.03	0.83
371590022	16	-5.38	1.59	0.36	0.03	0.88
371190041	16	-12.06	1.59	0.43	0.03	0.90
371191009	16	-5.05	1.52	0.36	0.02	0.89
371191005	17	-7.63	1.39	0.39	0.03	0.88
371790003	17	-5.78	1.71	0.40	0.03	0.83
371090004	17	-2.22	1.94	0.33	0.03	0.80
371590021	17	-3.27	1.69	0.35	0.03	0.84
371590022	17	-5.02	1.41	0.35	0.02	0.88
371190041	17	-11.68	1.47	0.42	0.03	0.86
371191009	17	-5.13	1.25	0.35	0.02	0.90
371191005	18	-8.25	1.19	0.40	0.03	0.89
371790003	18	-6.03	1.81	0.41	0.04	0.81
371090004	18	-2.65	1.93	0.33	0.03	0.79
371590021	18	-3.16	1.63	0.35	0.03	0.83
371590022	18	-5.36	1.33	0.34	0.03	0.86
371190041	18	-10.53	1.42	0.40	0.04	0.82
371191009	18	-5.98	1.16	0.36	0.02	0.89
371191005	19	-8.12	1.26	0.40	0.03	0.86
371790003	19	-6.66	1.93	0.43	0.04	0.79
371090004	19	-4.42	1.93	0.36	0.04	0.79
371590021	19	-3.65	1.49	0.35	0.03	0.84
371590022	19	-6.69	1.33	0.37	0.03	0.86

371190041	19	-10.06	1.49	0.41	0.04	0.79
371191009	19	-6.71	1.16	0.37	0.03	0.88
371191005	20	-7.73	1.55	0.40	0.04	0.78
371790003	20	-7.44	2.13	0.45	0.05	0.77
371090004	20	-5.98	1.79	0.39	0.04	0.82
371590021	20	-4.73	1.45	0.37	0.03	0.85
371590022	20	-6.53	1.42	0.37	0.03	0.82
371190041	20	-8.70	1.66	0.39	0.05	0.74
371191009	20	-6.28	1.20	0.37	0.03	0.86
371191005	21	-7.41	1.82	0.40	0.05	0.72
371790003	21	-7.05	2.25	0.44	0.05	0.74
371090004	21	-6.55	1.61	0.40	0.03	0.84
371590021	21	-5.29	1.57	0.38	0.03	0.82
371590022	21	-6.15	1.43	0.36	0.03	0.81
371190041	21	-6.67	1.85	0.36	0.05	0.68
371191009	21	-5.90	1.36	0.37	0.03	0.82
371191005	22	-6.61	1.88	0.38	0.05	0.70
371790003	22	-6.22	2.36	0.41	0.05	0.70
371090004	22	-6.38	1.62	0.41	0.04	0.82
371590021	22	-4.92	1.86	0.37	0.04	0.75
371590022	22	-5.77	1.64	0.36	0.04	0.76
371190041	22	-5.88	1.99	0.35	0.05	0.65
371191009	22	-5.96	1.57	0.37	0.04	0.77
371191005	23	-6.34	1.78	0.39	0.05	0.73
371790003	23	-6.68	2.66	0.42	0.06	0.65
371090004	23	-5.79	1.88	0.40	0.04	0.76
371590021	23	-5.33	1.77	0.38	0.04	0.76
371590022	23	-5.85	1.87	0.37	0.05	0.71
371190041	23	-5.60	1.92	0.35	0.05	0.66
371191009	23	-5.83	1.70	0.38	0.04	0.74

Table S6. Summary of linear regression data for first order NO_x sensitivities at Charlotte sites in the 75% NO_x cut model run ($S_{NO_x} = \text{slope} \times O_3 + \text{intercept}$).

Site	Hour	Intercept		Slope		Correlation Coefficient
		Value	Standard Error	Value	Standard Error	
371191005	0	-4.61	1.34	0.32	0.04	0.75
371790003	0	-4.73	2.18	0.32	0.05	0.60
371090004	0	-3.57	1.52	0.29	0.04	0.71
371590021	0	-4.75	1.22	0.31	0.03	0.80
371590022	0	-4.19	1.58	0.31	0.04	0.69
371190041	0	-4.65	1.55	0.31	0.04	0.69
371191009	0	-3.71	1.42	0.29	0.04	0.71
371191005	1	-4.35	1.30	0.31	0.04	0.74
371790003	1	-3.11	2.07	0.27	0.05	0.55
371090004	1	-3.32	1.54	0.28	0.04	0.68
371590021	1	-4.02	1.19	0.29	0.03	0.78
371590022	1	-4.26	1.52	0.31	0.04	0.70
371190041	1	-4.08	1.55	0.29	0.04	0.66
371191009	1	-3.72	1.40	0.29	0.04	0.70
371191005	2	-3.79	1.28	0.29	0.04	0.72
371790003	2	-2.60	1.88	0.26	0.05	0.55
371090004	2	-3.42	1.69	0.28	0.04	0.64
371590021	2	-4.40	1.24	0.30	0.03	0.77
371590022	2	-3.75	1.51	0.29	0.04	0.66
371190041	2	-3.17	1.45	0.27	0.04	0.63
371191009	2	-3.35	1.41	0.28	0.04	0.67
371191005	3	-3.02	1.17	0.27	0.04	0.69
371790003	3	-1.94	1.65	0.24	0.05	0.56
371090004	3	-3.30	1.72	0.28	0.05	0.61
371590021	3	-3.88	1.37	0.29	0.04	0.70
371590022	3	-3.14	1.54	0.26	0.05	0.60
371190041	3	-2.38	1.15	0.22	0.04	0.62
371191009	3	-2.52	1.39	0.25	0.04	0.61
371191005	4	-2.11	1.02	0.22	0.03	0.63
371790003	4	-0.86	1.50	0.20	0.04	0.52
371090004	4	-2.64	1.67	0.26	0.05	0.58
371590021	4	-3.37	1.46	0.27	0.04	0.64
371590022	4	-1.67	1.27	0.20	0.04	0.54
371190041	4	-3.35	0.83	0.22	0.03	0.66
371191009	4	-1.88	1.17	0.22	0.04	0.59

371191005	5	-3.40	0.97	0.25	0.04	0.65
371790003	5	0.47	1.37	0.16	0.04	0.45
371090004	5	-1.06	1.47	0.22	0.04	0.54
371590021	5	-1.68	1.44	0.22	0.04	0.56
371590022	5	-2.26	1.00	0.21	0.04	0.61
371190041	5	-5.70	0.79	0.26	0.03	0.70
371191009	5	-2.02	0.94	0.20	0.03	0.62
371191005	6	-4.81	1.05	0.29	0.04	0.71
371790003	6	0.28	1.47	0.17	0.04	0.45
371090004	6	-1.57	1.64	0.24	0.05	0.55
371590021	6	-1.41	1.45	0.22	0.04	0.56
371590022	6	-2.89	1.16	0.24	0.04	0.64
371190041	6	-7.37	0.87	0.30	0.04	0.74
371191009	6	-3.02	1.03	0.24	0.03	0.67
371191005	7	-6.99	1.33	0.36	0.04	0.80
371790003	7	-4.80	1.81	0.31	0.04	0.67
371090004	7	-6.70	1.86	0.37	0.04	0.73
371590021	7	-5.50	1.83	0.34	0.04	0.70
371590022	7	-6.04	1.58	0.35	0.04	0.74
371190041	7	-8.84	1.04	0.36	0.03	0.82
371191009	7	-5.56	1.44	0.33	0.04	0.75
371191005	8	-8.41	1.43	0.40	0.03	0.86
371790003	8	-8.27	1.74	0.38	0.04	0.81
371090004	8	-6.72	1.77	0.35	0.04	0.79
371590021	8	-8.84	1.87	0.40	0.04	0.80
371590022	8	-8.55	1.87	0.40	0.04	0.80
371190041	8	-10.29	1.42	0.42	0.03	0.85
371191009	8	-7.77	1.76	0.38	0.04	0.81
371191005	9	-7.74	1.82	0.37	0.03	0.83
371790003	9	-7.87	1.80	0.35	0.03	0.80
371090004	9	-3.57	2.09	0.28	0.04	0.69
371590021	9	-9.32	1.76	0.38	0.03	0.84
371590022	9	-8.51	1.91	0.37	0.03	0.82
371190041	9	-8.58	1.77	0.40	0.03	0.84
371191009	9	-8.38	2.02	0.37	0.04	0.80
371191005	10	-7.52	1.95	0.35	0.03	0.82
371790003	10	-8.22	1.63	0.35	0.03	0.84
371090004	10	-2.74	2.20	0.26	0.04	0.66
371590021	10	-8.83	1.62	0.35	0.03	0.86
371590022	10	-8.63	1.88	0.36	0.03	0.83

371190041	10	-8.04	2.37	0.37	0.04	0.78
371191009	10	-8.70	1.97	0.36	0.03	0.82
371191005	11	-7.32	2.10	0.34	0.03	0.80
371790003	11	-7.60	1.59	0.33	0.03	0.84
371090004	11	-3.19	2.28	0.26	0.04	0.66
371590021	11	-9.16	1.55	0.35	0.03	0.87
371590022	11	-8.26	1.80	0.34	0.03	0.84
371190041	11	-7.90	2.16	0.35	0.03	0.81
371191009	11	-8.49	1.78	0.34	0.03	0.84
371191005	12	-7.91	2.04	0.34	0.03	0.82
371790003	12	-7.36	1.67	0.33	0.03	0.82
371090004	12	-3.69	2.59	0.27	0.04	0.63
371590021	12	-9.09	1.73	0.35	0.03	0.85
371590022	12	-7.59	1.69	0.32	0.03	0.85
371190041	12	-7.09	1.35	0.32	0.02	0.90
371191009	12	-7.78	1.51	0.33	0.02	0.87
371191005	13	-7.86	1.48	0.33	0.02	0.89
371790003	13	-7.27	1.78	0.33	0.03	0.81
371090004	13	-4.07	2.63	0.27	0.04	0.63
371590021	13	-7.89	1.94	0.33	0.03	0.80
371590022	13	-6.76	1.54	0.31	0.02	0.86
371190041	13	-6.75	1.06	0.31	0.02	0.93
371191009	13	-6.96	1.32	0.31	0.02	0.89
371191005	14	-7.63	1.16	0.32	0.02	0.93
371790003	14	-7.13	1.80	0.33	0.03	0.80
371090004	14	-4.39	2.34	0.27	0.04	0.69
371590021	14	-6.40	1.92	0.30	0.03	0.78
371590022	14	-5.31	1.43	0.29	0.02	0.86
371190041	14	-6.34	1.04	0.30	0.02	0.93
371191009	14	-5.90	1.32	0.30	0.02	0.89
371191005	15	-7.11	1.17	0.32	0.02	0.92
371790003	15	-7.13	1.67	0.33	0.03	0.82
371090004	15	-4.21	2.03	0.27	0.03	0.74
371590021	15	-4.90	1.67	0.28	0.03	0.80
371590022	15	-4.25	1.38	0.27	0.02	0.86
371190041	15	-5.87	1.00	0.29	0.02	0.93
371191009	15	-4.42	1.37	0.28	0.02	0.87
371191005	16	-6.06	1.22	0.32	0.02	0.89
371790003	16	-6.03	1.46	0.32	0.03	0.84
371090004	16	-3.23	1.79	0.26	0.03	0.76

371590021	16	-3.83	1.43	0.27	0.02	0.83
371590022	16	-3.50	1.30	0.27	0.02	0.86
371190041	16	-5.66	0.95	0.30	0.02	0.92
371191009	16	-3.18	1.32	0.27	0.02	0.85
371191005	17	-4.99	1.07	0.32	0.02	0.89
371790003	17	-5.21	1.40	0.31	0.03	0.82
371090004	17	-2.48	1.56	0.25	0.03	0.78
371590021	17	-2.95	1.32	0.26	0.02	0.83
371590022	17	-2.76	1.23	0.26	0.02	0.84
371190041	17	-5.88	0.89	0.32	0.02	0.91
371191009	17	-2.70	1.25	0.27	0.02	0.84
371191005	18	-4.70	0.96	0.32	0.02	0.89
371790003	18	-5.72	1.50	0.33	0.03	0.80
371090004	18	-2.76	1.54	0.26	0.03	0.78
371590021	18	-2.97	1.31	0.26	0.02	0.82
371590022	18	-2.82	1.27	0.27	0.02	0.81
371190041	18	-5.43	0.95	0.33	0.02	0.87
371191009	18	-3.21	1.15	0.28	0.02	0.84
371191005	19	-4.24	1.02	0.32	0.03	0.85
371790003	19	-6.29	1.59	0.35	0.04	0.79
371090004	19	-3.92	1.53	0.28	0.03	0.79
371590021	19	-3.41	1.26	0.28	0.02	0.83
371590022	19	-3.72	1.20	0.28	0.03	0.82
371190041	19	-5.06	1.10	0.33	0.03	0.81
371191009	19	-4.19	1.04	0.30	0.02	0.86
371191005	20	-3.89	1.18	0.31	0.03	0.78
371790003	20	-6.91	1.75	0.37	0.04	0.77
371090004	20	-4.74	1.41	0.30	0.03	0.81
371590021	20	-3.90	1.29	0.29	0.03	0.81
371590022	20	-4.20	1.19	0.30	0.03	0.81
371190041	20	-4.51	1.36	0.31	0.04	0.73
371191009	20	-4.24	1.09	0.30	0.03	0.84
371191005	21	-4.03	1.34	0.31	0.04	0.74
371790003	21	-6.60	1.82	0.36	0.04	0.74
371090004	21	-4.88	1.27	0.31	0.03	0.83
371590021	21	-4.21	1.41	0.29	0.03	0.78
371590022	21	-4.19	1.28	0.30	0.03	0.78
371190041	21	-3.44	1.57	0.28	0.04	0.65
371191009	21	-3.63	1.28	0.29	0.03	0.77
371191005	22	-4.04	1.40	0.30	0.04	0.73

371790003	22	-6.05	1.90	0.34	0.04	0.71
371090004	22	-4.64	1.25	0.31	0.03	0.82
371590021	22	-4.20	1.62	0.30	0.04	0.72
371590022	22	-4.38	1.48	0.31	0.04	0.74
371190041	22	-3.58	1.68	0.29	0.05	0.63
371191009	22	-3.53	1.48	0.29	0.04	0.71
371191005	23	-4.06	1.36	0.30	0.04	0.73
371790003	23	-6.25	2.10	0.35	0.05	0.67
371090004	23	-4.21	1.40	0.30	0.03	0.77
371590021	23	-4.76	1.49	0.32	0.04	0.76
371590022	23	-4.42	1.67	0.31	0.04	0.69
371190041	23	-3.72	1.63	0.29	0.04	0.65
371191009	23	-3.63	1.52	0.29	0.04	0.69

Table S7. Summary of linear regression data for second order NO_x sensitivities at Charlotte sites in the base model run ($S^2_{\text{NO}_x} = \text{slope} \times S_{\text{NO}_x} + \text{intercept}$).

Site	Hour	Intercept		Slope		Correlation Coefficient
		Value	Standard Error	Value	Standard Error	
371191005	0	-13.83	1.74	-0.68	0.19	-0.42
371790003	0	-9.38	2.88	-0.76	0.23	-0.39
371090004	0	-11.87	2.09	-0.57	0.17	-0.40
371590021	0	-6.63	2.96	-1.31	0.29	-0.51
371590022	0	-14.85	2.39	-0.61	0.29	-0.26
371190041	0	-14.36	1.51	-0.74	0.20	-0.43
371191009	0	-13.75	2.23	-0.79	0.28	-0.34
371191005	1	-12.48	1.41	-0.76	0.16	-0.53
371790003	1	-8.07	2.56	-0.89	0.22	-0.46
371090004	1	-10.75	1.94	-0.63	0.16	-0.44
371590021	1	-6.62	2.73	-1.32	0.29	-0.51
371590022	1	-13.28	2.13	-0.68	0.26	-0.32
371190041	1	-13.59	1.27	-0.80	0.18	-0.50
371191009	1	-12.72	1.93	-0.80	0.25	-0.38
371191005	2	-12.27	1.09	-0.80	0.13	-0.61
371790003	2	-7.52	2.29	-0.97	0.22	-0.50
371090004	2	-10.29	1.81	-0.64	0.16	-0.46
371590021	2	-7.11	2.45	-1.25	0.28	-0.50
371590022	2	-12.23	1.78	-0.77	0.24	-0.39

371190041	2	-14.19	1.04	-0.80	0.16	-0.55
371191009	2	-11.99	1.56	-0.86	0.22	-0.45
371191005	3	-13.34	0.89	-0.80	0.12	-0.65
371790003	3	-8.04	1.95	-0.97	0.20	-0.52
371090004	3	-10.52	1.64	-0.61	0.16	-0.45
371590021	3	-6.87	2.05	-1.27	0.25	-0.55
371590022	3	-12.67	1.32	-0.84	0.21	-0.45
371190041	3	-15.68	1.09	-0.80	0.14	-0.59
371191009	3	-12.72	1.21	-0.91	0.20	-0.51
371191005	4	-14.33	1.02	-1.09	0.12	-0.75
371790003	4	-8.17	1.46	-1.06	0.18	-0.60
371090004	4	-10.98	1.47	-0.59	0.16	-0.43
371590021	4	-7.61	1.67	-1.25	0.23	-0.58
371590022	4	-14.22	1.08	-0.83	0.17	-0.55
371190041	4	-13.40	2.12	-1.02	0.18	-0.60
371191009	4	-14.50	1.04	-0.82	0.16	-0.56
371191005	5	-13.39	1.77	-1.36	0.20	-0.66
371790003	5	-8.47	1.07	-1.10	0.16	-0.65
371090004	5	-11.28	1.22	-0.55	0.16	-0.41
371590021	5	-8.45	1.28	-1.23	0.21	-0.61
371590022	5	-13.59	1.05	-1.05	0.14	-0.70
371190041	5	-6.30	2.64	-0.91	0.20	-0.50
371191009	5	-13.71	1.07	-1.06	0.14	-0.71
371191005	6	-11.68	1.38	-1.28	0.17	-0.69
371790003	6	-8.69	0.94	-1.02	0.15	-0.67
371090004	6	-11.08	1.09	-0.58	0.16	-0.43
371590021	6	-8.20	1.00	-1.28	0.17	-0.69
371590022	6	-11.78	0.86	-1.08	0.13	-0.73
371190041	6	-8.43	2.21	-1.11	0.17	-0.64
371191009	6	-11.93	0.85	-1.14	0.12	-0.76
371191005	7	-13.70	1.19	-1.06	0.16	-0.65
371790003	7	-11.31	1.31	-0.81	0.16	-0.55
371090004	7	-15.46	1.93	-0.39	0.22	-0.23
371590021	7	-8.91	1.46	-1.42	0.20	-0.68
371590022	7	-12.50	0.96	-0.80	0.15	-0.56
371190041	7	-16.90	2.38	-1.51	0.18	-0.73
371191009	7	-12.36	0.90	-0.91	0.15	-0.63
371191005	8	-17.58	1.80	-1.12	0.18	-0.63
371790003	8	-13.63	1.71	-0.67	0.14	-0.51
371090004	8	-24.30	5.00	-0.14	0.37	-0.05

371590021	8	-11.75	3.14	-1.20	0.27	-0.50
371590022	8	-23.22	3.09	-0.14	0.34	-0.05
371190041	8	-21.31	1.93	-1.51	0.15	-0.79
371191009	8	-20.27	2.41	-0.43	0.29	-0.19
371191005	9	-20.31	2.41	-0.89	0.18	-0.54
371790003	9	-11.61	3.10	-0.72	0.20	-0.43
371090004	9	-21.43	6.08	-0.39	0.34	-0.14
371590021	9	-4.54	4.46	-1.37	0.27	-0.55
371590022	9	-33.66	6.16	0.07	0.44	0.02
371190041	9	-21.93	1.91	-0.98	0.16	-0.62
371191009	9	-33.42	5.35	0.15	0.41	0.05
371191005	10	-37.57	5.01	0.32	0.31	0.13
371790003	10	-5.77	3.65	-0.90	0.20	-0.51
371090004	10	-20.90	5.59	-0.25	0.28	-0.11
371590021	10	-1.34	3.28	-1.12	0.16	-0.66
371590022	10	-32.63	8.50	-0.01	0.45	0.00
371190041	10	-29.89	2.37	-0.11	0.17	-0.08
371191009	10	-31.37	8.48	-0.02	0.46	-0.01
371191005	11	-71.72	10.87	2.03	0.55	0.43
371790003	11	-0.85	3.23	-1.03	0.16	-0.63
371090004	11	-12.36	5.58	-0.57	0.26	-0.27
371590021	11	-0.86	2.53	-0.97	0.12	-0.72
371590022	11	-7.51	6.50	-1.00	0.30	-0.39
371190041	11	-52.85	5.55	1.34	0.35	0.44
371191009	11	-2.06	6.13	-1.21	0.29	-0.48
371191005	12	-74.19	17.17	1.93	0.77	0.31
371790003	12	1.07	2.43	-1.03	0.12	-0.75
371090004	12	2.43	5.26	-1.20	0.24	-0.55
371590021	12	1.40	2.28	-1.02	0.10	-0.78
371590022	12	-4.35	3.61	-0.93	0.16	-0.60
371190041	12	-26.96	7.20	-0.45	0.39	-0.15
371191009	12	-2.49	3.17	-0.97	0.14	-0.67
371191005	13	-21.40	11.15	-0.37	0.48	-0.10
371790003	13	1.91	2.28	-1.06	0.11	-0.79
371090004	13	8.72	4.70	-1.42	0.21	-0.67
371590021	13	3.96	2.18	-1.11	0.10	-0.83
371590022	13	-5.42	2.61	-0.80	0.11	-0.67
371190041	13	-12.16	3.94	-0.97	0.20	-0.53
371191009	13	-2.94	2.70	-0.93	0.12	-0.71
371191005	14	-6.47	4.31	-0.93	0.19	-0.53

371790003	14	2.23	2.37	-1.08	0.11	-0.79
371090004	14	7.91	4.10	-1.34	0.18	-0.70
371590021	14	4.41	2.18	-1.12	0.10	-0.83
371590022	14	-6.90	2.48	-0.77	0.11	-0.67
371190041	14	-11.42	2.79	-0.94	0.15	-0.64
371191009	14	-3.50	3.46	-0.96	0.15	-0.63
371191005	15	-9.35	3.11	-0.84	0.15	-0.58
371790003	15	0.74	2.31	-1.02	0.11	-0.77
371090004	15	3.21	3.67	-1.13	0.16	-0.68
371590021	15	3.01	2.26	-1.07	0.10	-0.81
371590022	15	-8.03	2.63	-0.80	0.12	-0.65
371190041	15	-13.23	2.27	-0.83	0.13	-0.64
371191009	15	-6.01	5.03	-0.97	0.23	-0.48
371191005	16	-14.74	2.37	-0.65	0.15	-0.50
371790003	16	-1.60	2.68	-0.95	0.13	-0.67
371090004	16	-2.10	3.56	-0.95	0.16	-0.62
371590021	16	1.27	2.47	-1.05	0.11	-0.77
371590022	16	-8.52	3.21	-0.95	0.17	-0.59
371190041	16	-15.36	1.84	-0.74	0.12	-0.62
371191009	16	-13.31	6.58	-0.81	0.36	-0.28
371191005	17	-18.41	1.82	-0.52	0.15	-0.40
371790003	17	-3.32	3.68	-0.95	0.21	-0.51
371090004	17	-7.76	3.66	-0.78	0.17	-0.50
371590021	17	-0.59	2.52	-1.04	0.12	-0.74
371590022	17	-15.67	4.68	-0.82	0.33	-0.31
371190041	17	-19.00	1.64	-0.70	0.15	-0.52
371191009	17	-26.62	6.23	0.05	0.45	0.01
371191005	18	-20.90	2.09	-0.52	0.21	-0.30
371790003	18	-2.02	4.53	-1.14	0.28	-0.47
371090004	18	-12.63	3.74	-0.63	0.20	-0.38
371590021	18	0.18	3.33	-1.19	0.17	-0.66
371590022	18	-26.84	4.47	0.24	0.41	0.08
371190041	18	-24.01	2.89	-1.04	0.27	-0.45
371191009	18	-28.08	4.08	0.50	0.38	0.17
371191005	19	-20.78	2.06	-0.46	0.21	-0.27
371790003	19	-1.20	4.80	-1.28	0.31	-0.47
371090004	19	-13.28	3.23	-0.62	0.19	-0.39
371590021	19	-1.40	5.47	-1.27	0.32	-0.45
371590022	19	-23.82	2.67	0.18	0.29	0.08
371190041	19	-24.25	2.84	-1.20	0.28	-0.48

371191009	19	-20.84	2.03	-0.23	0.22	-0.13
371191005	20	-19.69	1.93	-0.50	0.20	-0.31
371790003	20	-2.32	4.19	-1.22	0.28	-0.49
371090004	20	-12.83	2.95	-0.64	0.19	-0.40
371590021	20	-12.15	5.35	-0.65	0.36	-0.23
371590022	20	-19.39	2.08	-0.57	0.24	-0.29
371190041	20	-21.14	2.21	-0.96	0.27	-0.42
371191009	20	-18.50	2.02	-0.60	0.24	-0.30
371191005	21	-18.22	1.72	-0.54	0.18	-0.36
371790003	21	-5.16	3.00	-0.97	0.21	-0.52
371090004	21	-13.15	2.57	-0.58	0.18	-0.38
371590021	21	-12.29	4.10	-0.66	0.31	-0.27
371590022	21	-17.97	2.30	-0.68	0.29	-0.29
371190041	21	-19.06	1.89	-0.63	0.26	-0.30
371191009	21	-18.02	2.32	-0.63	0.28	-0.28
371191005	22	-16.99	1.77	-0.56	0.19	-0.35
371790003	22	-7.38	2.64	-0.82	0.19	-0.49
371090004	22	-13.52	2.28	-0.51	0.17	-0.36
371590021	22	-8.09	3.41	-1.07	0.28	-0.45
371590022	22	-17.28	2.51	-0.58	0.31	-0.24
371190041	22	-17.78	1.87	-0.65	0.27	-0.30
371191009	22	-17.12	2.49	-0.66	0.30	-0.28
371191005	23	-15.39	1.87	-0.64	0.21	-0.37
371790003	23	-9.13	2.89	-0.74	0.22	-0.40
371090004	23	-12.84	2.20	-0.53	0.17	-0.38
371590021	23	-6.74	3.16	-1.28	0.27	-0.51
371590022	23	-16.14	2.51	-0.59	0.29	-0.26
371190041	23	-15.64	1.80	-0.79	0.26	-0.37
371191009	23	-15.50	2.40	-0.73	0.29	-0.32

Table S8. Summary of linear regression data for second order NO_x sensitivities at Charlotte sites in the 50% NO_x cut model run ($S^2_{\text{NO}_x} = \text{slope} \times S_{\text{NO}_x} + \text{intercept}$).

Site	Hour	Intercept		Slope		Correlation Coefficient
		Value	Standard Error	Value	Standard Error	
371191005	0	-3.60	1.04	-0.85	0.11	-0.71
371790003	0	0.64	1.50	-1.01	0.13	-0.70
371090004	0	-1.47	1.19	-0.84	0.10	-0.73
371590021	0	-0.19	1.52	-0.99	0.14	-0.67
371590022	0	-1.52	1.22	-1.07	0.13	-0.73
371190041	0	-3.66	0.95	-0.91	0.11	-0.73
371191009	0	-2.23	1.22	-1.00	0.13	-0.69
371191005	1	-3.50	0.88	-0.81	0.10	-0.74
371790003	1	0.16	1.44	-0.99	0.14	-0.68
371090004	1	-1.19	1.11	-0.88	0.10	-0.74
371590021	1	-0.65	1.53	-0.96	0.16	-0.62
371590022	1	-2.11	1.19	-0.95	0.13	-0.69
371190041	1	-3.90	0.96	-0.85	0.12	-0.69
371191009	1	-2.71	1.22	-0.89	0.14	-0.64
371191005	2	-3.93	0.81	-0.75	0.09	-0.72
371790003	2	-0.18	1.36	-0.98	0.14	-0.68
371090004	2	-1.33	0.99	-0.87	0.10	-0.76
371590021	2	-1.02	1.49	-0.92	0.16	-0.60
371590022	2	-2.63	1.08	-0.88	0.13	-0.67
371190041	2	-4.99	0.93	-0.76	0.13	-0.61
371191009	2	-3.06	1.15	-0.84	0.14	-0.62
371191005	3	-5.29	0.72	-0.66	0.10	-0.66
371790003	3	-0.76	1.27	-0.97	0.14	-0.67
371090004	3	-1.99	0.86	-0.82	0.09	-0.77
371590021	3	-1.32	1.39	-0.90	0.16	-0.59
371590022	3	-3.76	0.89	-0.83	0.12	-0.66
371190041	3	-7.04	0.72	-0.59	0.13	-0.52
371191009	3	-4.06	0.98	-0.80	0.13	-0.61
371191005	4	-6.89	0.57	-0.56	0.09	-0.61
371790003	4	-1.29	1.13	-0.97	0.14	-0.68
371090004	4	-2.86	0.74	-0.77	0.08	-0.77
371590021	4	-1.90	1.26	-0.87	0.16	-0.59
371590022	4	-6.01	0.59	-0.66	0.10	-0.64
371190041	4	-7.88	0.66	-0.51	0.11	-0.53
371191009	4	-6.26	0.72	-0.62	0.12	-0.54

371191005	5	-7.04	0.47	-0.67	0.08	-0.73
371790003	5	-2.55	1.00	-0.93	0.14	-0.65
371090004	5	-4.58	0.63	-0.68	0.08	-0.74
371590021	5	-2.97	1.05	-0.88	0.15	-0.61
371590022	5	-6.79	0.38	-0.62	0.08	-0.73
371190041	5	-6.97	0.82	-0.73	0.10	-0.68
371191009	5	-7.05	0.51	-0.58	0.10	-0.59
371191005	6	-7.19	0.46	-0.82	0.08	-0.78
371790003	6	-4.99	1.18	-0.72	0.17	-0.48
371090004	6	-6.06	0.61	-0.63	0.08	-0.72
371590021	6	-4.43	1.01	-0.90	0.15	-0.62
371590022	6	-7.38	0.50	-0.69	0.10	-0.66
371190041	6	-8.07	0.93	-0.97	0.12	-0.73
371191009	6	-7.35	0.53	-0.66	0.11	-0.60
371191005	7	-10.79	1.47	-0.65	0.21	-0.36
371790003	7	-8.42	3.34	-0.58	0.38	-0.20
371090004	7	-8.95	1.23	-0.50	0.12	-0.47
371590021	7	-6.39	1.58	-0.88	0.17	-0.55
371590022	7	-10.84	1.44	-0.56	0.20	-0.34
371190041	7	-11.80	1.24	-0.98	0.16	-0.61
371191009	7	-10.16	1.18	-0.68	0.18	-0.44
371191005	8	-16.01	3.00	-0.50	0.27	-0.23
371790003	8	-8.17	3.16	-0.58	0.26	-0.28
371090004	8	-9.49	2.47	-0.52	0.18	-0.35
371590021	8	-3.84	2.13	-1.00	0.16	-0.62
371590022	8	-13.87	3.53	-0.56	0.30	-0.23
371190041	8	-15.75	1.21	-0.78	0.15	-0.57
371191009	8	-13.31	2.70	-0.64	0.24	-0.32
371191005	9	-16.50	4.91	-0.45	0.34	-0.17
371790003	9	-0.35	2.40	-0.96	0.16	-0.60
371090004	9	-4.98	2.77	-0.69	0.17	-0.46
371590021	9	0.98	1.57	-1.01	0.10	-0.80
371590022	9	-3.58	4.28	-1.02	0.27	-0.44
371190041	9	-24.69	2.83	0.14	0.25	0.07
371191009	9	-2.15	3.90	-1.14	0.25	-0.51
371191005	10	1.22	5.07	-1.23	0.29	-0.48
371790003	10	2.92	1.43	-1.03	0.09	-0.83
371090004	10	-0.61	2.40	-0.84	0.14	-0.61
371590021	10	1.14	1.15	-0.86	0.07	-0.86
371590022	10	3.36	2.61	-1.14	0.14	-0.72

371190041	10	-34.39	12.14	0.59	0.77	0.10
371191009	10	4.70	2.53	-1.20	0.14	-0.74
371191005	11	14.12	7.07	-1.73	0.36	-0.53
371790003	11	2.17	0.94	-0.89	0.06	-0.89
371090004	11	3.17	2.12	-1.00	0.12	-0.73
371590021	11	1.19	1.06	-0.82	0.06	-0.87
371590022	11	2.20	1.64	-0.94	0.09	-0.81
371190041	11	10.33	10.96	-1.86	0.58	-0.38
371191009	11	2.78	1.45	-0.94	0.08	-0.84
371191005	12	15.81	5.21	-1.68	0.25	-0.65
371790003	12	2.22	1.29	-0.84	0.08	-0.82
371090004	12	6.28	1.94	-1.15	0.11	-0.81
371590021	12	2.19	1.04	-0.86	0.06	-0.88
371590022	12	1.25	1.36	-0.83	0.07	-0.83
371190041	12	1.18	2.92	-1.00	0.15	-0.67
371191009	12	0.98	1.26	-0.79	0.07	-0.84
371191005	13	5.57	2.77	-1.07	0.13	-0.72
371790003	13	2.58	1.21	-0.87	0.07	-0.84
371090004	13	6.97	1.81	-1.16	0.10	-0.83
371590021	13	3.29	0.97	-0.89	0.05	-0.91
371590022	13	0.74	1.14	-0.77	0.06	-0.86
371190041	13	-2.71	1.39	-0.71	0.07	-0.80
371191009	13	0.35	1.20	-0.75	0.06	-0.84
371191005	14	1.12	1.29	-0.82	0.06	-0.86
371790003	14	3.04	1.04	-0.92	0.06	-0.89
371090004	14	6.26	1.68	-1.09	0.09	-0.84
371590021	14	3.56	1.04	-0.89	0.06	-0.89
371590022	14	-0.06	1.08	-0.74	0.06	-0.86
371190041	14	-4.63	1.44	-0.63	0.07	-0.74
371191009	14	0.67	1.28	-0.78	0.06	-0.84
371191005	15	-0.45	1.39	-0.80	0.07	-0.82
371790003	15	2.91	1.72	-0.94	0.10	-0.77
371090004	15	4.56	1.61	-0.97	0.08	-0.83
371590021	15	2.89	1.21	-0.86	0.07	-0.86
371590022	15	-1.04	1.16	-0.72	0.06	-0.84
371190041	15	-7.66	1.49	-0.50	0.09	-0.60
371191009	15	0.82	2.00	-0.84	0.10	-0.73
371191005	16	-3.34	1.65	-0.77	0.10	-0.70
371790003	16	2.27	1.91	-0.94	0.12	-0.72
371090004	16	2.82	1.62	-0.89	0.09	-0.80

371590021	16	2.13	1.42	-0.84	0.08	-0.81
371590022	16	-1.32	1.47	-0.79	0.08	-0.78
371190041	16	-10.70	1.57	-0.34	0.11	-0.38
371191009	16	0.23	3.12	-0.95	0.17	-0.58
371191005	17	-6.09	1.37	-0.74	0.10	-0.68
371790003	17	1.52	1.81	-0.94	0.12	-0.71
371090004	17	1.44	1.60	-0.85	0.09	-0.78
371590021	17	1.28	1.37	-0.82	0.08	-0.80
371590022	17	-1.82	2.61	-0.96	0.17	-0.59
371190041	17	-10.53	1.21	-0.50	0.12	-0.49
371191009	17	-3.43	4.68	-0.95	0.31	-0.37
371191005	18	-7.73	1.18	-0.72	0.11	-0.66
371790003	18	1.99	1.68	-1.03	0.12	-0.74
371090004	18	0.61	1.57	-0.86	0.09	-0.77
371590021	18	1.61	1.52	-0.89	0.09	-0.78
371590022	18	-5.15	4.02	-0.88	0.31	-0.35
371190041	18	-10.48	0.91	-0.76	0.11	-0.66
371191009	18	-9.77	4.59	-0.54	0.36	-0.19
371191005	19	-8.20	1.19	-0.69	0.12	-0.58
371790003	19	2.76	1.64	-1.13	0.12	-0.77
371090004	19	0.03	1.40	-0.87	0.09	-0.78
371590021	19	2.35	2.43	-1.03	0.16	-0.64
371590022	19	-8.65	3.05	-0.55	0.27	-0.25
371190041	19	-9.59	0.95	-0.83	0.13	-0.64
371191009	19	-8.07	2.49	-0.61	0.22	-0.33
371191005	20	-7.92	1.27	-0.70	0.14	-0.54
371790003	20	3.02	1.65	-1.17	0.13	-0.77
371090004	20	-0.56	1.20	-0.85	0.08	-0.80
371590021	20	0.36	2.88	-0.96	0.21	-0.51
371590022	20	-5.31	1.63	-0.85	0.16	-0.57
371190041	20	-7.62	1.04	-0.95	0.14	-0.65
371191009	20	-4.53	1.32	-0.92	0.13	-0.67
371191005	21	-6.86	1.28	-0.75	0.14	-0.56
371790003	21	2.41	1.52	-1.11	0.12	-0.77
371090004	21	-1.10	1.12	-0.84	0.08	-0.79
371590021	21	-0.61	2.39	-0.91	0.19	-0.53
371590022	21	-2.99	1.17	-1.06	0.12	-0.76
371190041	21	-5.71	1.09	-1.03	0.14	-0.69
371191009	21	-3.28	1.23	-1.03	0.12	-0.73
371191005	22	-5.36	1.25	-0.84	0.14	-0.62

371790003	22	2.00	1.45	-1.09	0.12	-0.77
371090004	22	-1.60	1.11	-0.81	0.09	-0.77
371590021	22	0.87	1.76	-1.07	0.15	-0.69
371590022	22	-1.60	1.14	-1.16	0.12	-0.79
371190041	22	-3.80	1.08	-1.13	0.13	-0.75
371191009	22	-2.29	1.20	-1.11	0.12	-0.76
371191005	23	-3.97	1.19	-0.90	0.13	-0.67
371790003	23	1.22	1.49	-1.04	0.13	-0.73
371090004	23	-1.63	1.17	-0.82	0.10	-0.74
371590021	23	0.92	1.53	-1.09	0.13	-0.73
371590022	23	-1.08	1.18	-1.17	0.12	-0.78
371190041	23	-2.93	1.04	-1.12	0.12	-0.76
371191009	23	-1.94	1.20	-1.10	0.13	-0.75

Table S9. Summary of linear regression data for second order NO_x sensitivities at Charlotte sites in the 75% NO_x cut model run ($S^2_{NOx} = \text{slope} \times S_{NOx} + \text{intercept}$).

Site	Hour	Intercept		Slope		Correlation Coefficient
		Value	Standard Error	Value	Standard Error	
371191005	0	0.06	0.65	-0.77	0.08	-0.77
371790003	0	1.53	0.64	-0.83	0.07	-0.82
371090004	0	0.70	0.65	-0.72	0.07	-0.79
371590021	0	1.00	0.47	-0.80	0.05	-0.88
371590022	0	1.07	0.53	-0.90	0.06	-0.88
371190041	0	0.06	0.52	-0.80	0.07	-0.83
371191009	0	0.73	0.53	-0.87	0.07	-0.86
371191005	1	-0.22	0.54	-0.71	0.07	-0.79
371790003	1	1.20	0.54	-0.80	0.07	-0.84
371090004	1	0.74	0.59	-0.74	0.07	-0.81
371590021	1	0.86	0.45	-0.80	0.06	-0.88
371590022	1	0.60	0.51	-0.83	0.06	-0.86
371190041	1	-0.23	0.44	-0.76	0.06	-0.85
371191009	1	0.34	0.49	-0.79	0.06	-0.85
371191005	2	-0.56	0.45	-0.67	0.06	-0.81
371790003	2	0.93	0.47	-0.79	0.06	-0.86
371090004	2	0.56	0.52	-0.73	0.07	-0.82
371590021	2	0.73	0.43	-0.79	0.06	-0.88
371590022	2	0.23	0.45	-0.79	0.06	-0.86

371190041	2	-0.77	0.40	-0.73	0.06	-0.85
371191009	2	0.08	0.43	-0.77	0.06	-0.86
371191005	3	-1.27	0.38	-0.62	0.06	-0.80
371790003	3	0.67	0.40	-0.78	0.05	-0.88
371090004	3	0.14	0.47	-0.69	0.06	-0.83
371590021	3	0.51	0.41	-0.77	0.06	-0.87
371590022	3	-0.35	0.39	-0.76	0.06	-0.86
371190041	3	-2.15	0.34	-0.64	0.06	-0.80
371191009	3	-0.50	0.37	-0.74	0.06	-0.86
371191005	4	-2.62	0.33	-0.51	0.06	-0.74
371790003	4	0.41	0.33	-0.78	0.05	-0.90
371090004	4	-0.25	0.43	-0.66	0.06	-0.82
371590021	4	0.26	0.39	-0.76	0.06	-0.86
371590022	4	-1.78	0.33	-0.64	0.06	-0.81
371190041	4	-3.90	0.27	-0.46	0.06	-0.68
371191009	4	-1.77	0.34	-0.65	0.06	-0.81
371191005	5	-4.01	0.26	-0.45	0.06	-0.72
371790003	5	0.03	0.40	-0.81	0.06	-0.86
371090004	5	-0.95	0.42	-0.63	0.06	-0.80
371590021	5	-0.16	0.41	-0.78	0.06	-0.85
371590022	5	-3.32	0.30	-0.51	0.06	-0.72
371190041	5	-4.54	0.24	-0.45	0.05	-0.74
371191009	5	-3.44	0.32	-0.54	0.07	-0.71
371191005	6	-5.26	0.36	-0.50	0.07	-0.66
371790003	6	-0.53	0.97	-0.86	0.15	-0.60
371090004	6	-1.84	0.53	-0.62	0.07	-0.73
371590021	6	-0.77	0.61	-0.84	0.09	-0.77
371590022	6	-4.69	0.53	-0.51	0.10	-0.55
371190041	6	-5.98	0.32	-0.55	0.07	-0.72
371191009	6	-4.93	0.50	-0.52	0.10	-0.55
371191005	7	-6.98	1.76	-0.59	0.23	-0.31
371790003	7	1.57	1.79	-1.17	0.21	-0.58
371090004	7	-2.03	0.93	-0.61	0.10	-0.62
371590021	7	-0.81	0.93	-0.81	0.11	-0.70
371590022	7	-5.45	1.27	-0.56	0.16	-0.42
371190041	7	-9.55	0.77	-0.58	0.15	-0.44
371191009	7	-5.26	1.15	-0.67	0.15	-0.50
371191005	8	-5.35	2.84	-0.75	0.25	-0.36
371790003	8	2.05	1.64	-0.99	0.15	-0.65
371090004	8	-0.25	1.33	-0.69	0.12	-0.61

371590021	8	0.53	0.81	-0.76	0.07	-0.81
371590022	8	-1.60	1.80	-0.78	0.16	-0.54
371190041	8	-11.98	1.78	-0.48	0.20	-0.29
371191009	8	-1.54	1.46	-0.84	0.13	-0.64
371191005	9	1.65	2.12	-1.02	0.16	-0.64
371790003	9	2.28	0.74	-0.82	0.06	-0.86
371090004	9	2.15	1.26	-0.81	0.10	-0.72
371590021	9	0.92	0.56	-0.66	0.04	-0.89
371590022	9	1.65	1.08	-0.81	0.08	-0.79
371190041	9	-1.49	3.80	-1.14	0.29	-0.45
371191009	9	1.83	0.97	-0.84	0.07	-0.83
371191005	10	3.55	1.28	-0.94	0.09	-0.81
371790003	10	1.41	0.54	-0.67	0.05	-0.88
371090004	10	3.26	1.03	-0.85	0.08	-0.80
371590021	10	1.06	0.50	-0.63	0.04	-0.90
371590022	10	1.65	0.66	-0.71	0.05	-0.89
371190041	10	9.73	3.64	-1.56	0.23	-0.65
371191009	10	1.91	0.72	-0.73	0.05	-0.88
371191005	11	5.63	1.25	-1.01	0.08	-0.85
371790003	11	1.50	0.47	-0.67	0.04	-0.91
371090004	11	3.82	0.89	-0.87	0.07	-0.85
371590021	11	1.27	0.48	-0.64	0.04	-0.91
371590022	11	1.72	0.55	-0.67	0.04	-0.91
371190041	11	6.19	1.83	-1.10	0.11	-0.78
371191009	11	1.76	0.55	-0.67	0.04	-0.91
371191005	12	5.01	0.99	-0.91	0.06	-0.88
371790003	12	1.78	0.63	-0.70	0.05	-0.86
371090004	12	4.22	0.83	-0.89	0.06	-0.87
371590021	12	1.59	0.48	-0.65	0.04	-0.91
371590022	12	1.62	0.54	-0.65	0.04	-0.90
371190041	12	1.11	0.76	-0.65	0.05	-0.87
371191009	12	1.44	0.53	-0.62	0.04	-0.90
371191005	13	2.75	0.68	-0.72	0.04	-0.90
371790003	13	1.80	0.66	-0.69	0.05	-0.86
371090004	13	4.03	0.77	-0.86	0.06	-0.88
371590021	13	1.93	0.51	-0.67	0.04	-0.91
371590022	13	1.35	0.54	-0.62	0.04	-0.90
371190041	13	-0.12	0.70	-0.55	0.05	-0.84
371191009	13	1.07	0.52	-0.59	0.04	-0.90
371191005	14	1.58	0.49	-0.63	0.03	-0.93

371790003	14	1.80	0.47	-0.68	0.04	-0.92
371090004	14	3.67	0.73	-0.82	0.05	-0.89
371590021	14	2.06	0.58	-0.68	0.04	-0.89
371590022	14	0.93	0.56	-0.59	0.04	-0.89
371190041	14	-1.38	1.06	-0.50	0.07	-0.67
371191009	14	0.91	0.56	-0.58	0.04	-0.89
371191005	15	1.29	0.59	-0.65	0.04	-0.90
371790003	15	1.83	0.49	-0.67	0.04	-0.91
371090004	15	3.08	0.71	-0.75	0.05	-0.88
371590021	15	1.92	0.73	-0.67	0.06	-0.84
371590022	15	0.48	0.59	-0.58	0.04	-0.87
371190041	15	-3.54	1.65	-0.41	0.12	-0.40
371191009	15	0.89	0.72	-0.61	0.05	-0.85
371191005	16	0.65	0.88	-0.70	0.07	-0.81
371790003	16	1.73	0.53	-0.66	0.04	-0.89
371090004	16	2.62	0.70	-0.71	0.05	-0.87
371590021	16	1.72	0.89	-0.67	0.07	-0.78
371590022	16	0.23	0.66	-0.60	0.05	-0.85
371190041	16	-5.69	2.26	-0.32	0.19	-0.22
371191009	16	1.01	1.10	-0.69	0.08	-0.75
371191005	17	-0.73	0.86	-0.68	0.07	-0.77
371790003	17	1.64	0.52	-0.68	0.05	-0.88
371090004	17	2.34	0.68	-0.71	0.05	-0.87
371590021	17	1.31	0.85	-0.65	0.07	-0.78
371590022	17	0.42	1.04	-0.71	0.08	-0.75
371190041	17	-4.50	1.39	-0.54	0.14	-0.44
371191009	17	1.28	1.71	-0.84	0.13	-0.63
371191005	18	-1.34	0.64	-0.68	0.06	-0.83
371790003	18	1.96	0.52	-0.75	0.05	-0.89
371090004	18	2.25	0.68	-0.74	0.05	-0.87
371590021	18	1.33	0.81	-0.68	0.07	-0.79
371590022	18	1.13	1.62	-0.89	0.14	-0.63
371190041	18	-3.26	0.73	-0.72	0.08	-0.74
371191009	18	0.48	2.00	-0.87	0.18	-0.54
371191005	19	-1.20	0.64	-0.73	0.07	-0.81
371790003	19	2.20	0.72	-0.82	0.07	-0.83
371090004	19	1.87	0.66	-0.74	0.06	-0.86
371590021	19	1.71	0.98	-0.76	0.09	-0.75
371590022	19	0.04	1.55	-0.82	0.15	-0.57
371190041	19	-2.10	0.69	-0.83	0.09	-0.78

371191009	19	-0.84	1.38	-0.74	0.14	-0.57
371191005	20	-0.85	0.75	-0.80	0.09	-0.76
371790003	20	2.34	0.88	-0.87	0.09	-0.79
371090004	20	1.32	0.64	-0.72	0.06	-0.85
371590021	20	1.79	1.15	-0.83	0.11	-0.70
371590022	20	-0.09	0.93	-0.80	0.10	-0.72
371190041	20	-0.82	0.69	-0.93	0.09	-0.80
371191009	20	0.12	0.74	-0.82	0.08	-0.80
371191005	21	-0.45	0.79	-0.83	0.10	-0.75
371790003	21	2.15	0.89	-0.86	0.09	-0.77
371090004	21	0.92	0.64	-0.70	0.06	-0.82
371590021	21	1.57	0.97	-0.83	0.10	-0.74
371590022	21	0.70	0.60	-0.87	0.07	-0.86
371190041	21	0.08	0.67	-0.97	0.09	-0.82
371191009	21	0.82	0.64	-0.90	0.07	-0.85
371191005	22	0.07	0.76	-0.86	0.09	-0.76
371790003	22	2.06	0.83	-0.86	0.09	-0.78
371090004	22	0.63	0.65	-0.68	0.07	-0.80
371590021	22	1.75	0.65	-0.87	0.07	-0.86
371590022	22	1.29	0.55	-0.94	0.06	-0.89
371190041	22	0.67	0.63	-0.98	0.08	-0.84
371191009	22	1.20	0.59	-0.95	0.07	-0.88
371191005	23	0.37	0.73	-0.85	0.09	-0.77
371790003	23	1.84	0.75	-0.85	0.08	-0.80
371090004	23	0.59	0.66	-0.69	0.07	-0.78
371590021	23	1.52	0.52	-0.86	0.06	-0.89
371590022	23	1.48	0.54	-0.97	0.06	-0.90
371190041	23	0.67	0.60	-0.93	0.08	-0.84
371191009	23	1.18	0.55	-0.95	0.07	-0.88

Table S10. Summary of linear regression data for first order NO_x sensitivities at Detroit sites in the base cut model run ($S_{NOx} = \text{slope} \times O_3 + \text{intercept}$).

Site	Hour	Intercept		Slope		Correlation Coefficient
		Value	Standard Error	Value	Standard Error	
261630001	0	-18.07	2.16	0.38	0.06	0.61
261610008	0	-19.69	1.87	0.46	0.06	0.73
260910007	0	-16.92	3.02	0.48	0.08	0.64
261250001	0	-17.58	2.73	0.35	0.08	0.49
261470005	0	-9.61	1.99	0.33	0.05	0.62
260991003	0	-15.47	2.65	0.28	0.08	0.40
260990009	0	-10.11	2.45	0.30	0.07	0.48
261630019	0	-14.43	2.56	0.36	0.07	0.58
261630001	1	-18.48	1.90	0.41	0.06	0.67
261610008	1	-18.61	1.62	0.45	0.05	0.76
260910007	1	-16.22	2.52	0.47	0.06	0.69
261250001	1	-18.51	2.16	0.40	0.06	0.63
261470005	1	-10.75	1.94	0.37	0.05	0.65
260991003	1	-15.15	2.08	0.29	0.06	0.51
260990009	1	-7.91	2.60	0.23	0.07	0.37
261630019	1	-13.42	2.27	0.33	0.06	0.59
261630001	2	-18.16	1.80	0.37	0.06	0.63
261610008	2	-17.83	1.62	0.42	0.05	0.72
260910007	2	-15.28	2.18	0.46	0.06	0.71
261250001	2	-17.48	1.92	0.36	0.06	0.60
261470005	2	-9.56	2.16	0.32	0.06	0.54
260991003	2	-15.89	1.89	0.30	0.06	0.52
260990009	2	-9.79	2.29	0.29	0.07	0.48
261630019	2	-13.91	2.13	0.33	0.06	0.60
261630001	3	-15.44	1.71	0.18	0.07	0.32
261610008	3	-16.91	1.60	0.32	0.06	0.56
260910007	3	-14.15	1.91	0.43	0.05	0.72
261250001	3	-16.04	1.62	0.20	0.06	0.38
261470005	3	-8.31	2.01	0.25	0.06	0.44
260991003	3	-15.18	1.80	0.17	0.07	0.30
260990009	3	-12.28	2.13	0.34	0.07	0.54
261630019	3	-16.19	1.96	0.34	0.06	0.59
261630001	4	-8.76	1.54	-0.24	0.08	-0.34
261610008	4	-11.84	1.49	0.01	0.07	0.02
260910007	4	-13.30	1.78	0.40	0.05	0.71

261250001	4	-9.95	1.48	-0.20	0.08	-0.32
261470005	4	-9.80	1.72	0.23	0.06	0.44
260991003	4	-10.29	1.58	-0.15	0.09	-0.22
260990009	4	-14.27	2.01	0.35	0.07	0.53
261630019	4	-15.72	1.85	0.23	0.07	0.39
261630001	5	-4.36	1.62	-0.52	0.10	-0.56
261610008	5	-7.20	1.22	-0.19	0.06	-0.35
260910007	5	-11.01	1.53	0.33	0.05	0.69
261250001	5	-6.80	1.32	-0.34	0.08	-0.49
261470005	5	-9.27	1.48	0.19	0.06	0.39
260991003	5	-6.75	1.22	-0.27	0.07	-0.43
260990009	5	-12.91	1.66	0.30	0.06	0.52
261630019	5	-12.46	1.76	0.10	0.07	0.17
261630001	6	-6.45	1.27	-0.23	0.07	-0.41
261610008	6	-6.92	1.09	-0.09	0.05	-0.23
260910007	6	-8.57	1.52	0.26	0.05	0.60
261250001	6	-7.47	1.06	-0.22	0.06	-0.45
261470005	6	-9.12	1.45	0.23	0.05	0.49
260991003	6	-8.59	1.00	-0.10	0.05	-0.25
260990009	6	-12.92	1.71	0.34	0.06	0.58
261630019	6	-12.73	1.66	0.17	0.06	0.32
261630001	7	-9.13	1.59	-0.05	0.06	-0.11
261610008	7	-10.09	1.45	0.09	0.05	0.22
260910007	7	-9.26	1.84	0.27	0.05	0.58
261250001	7	-10.13	1.40	-0.07	0.05	-0.18
261470005	7	-8.95	1.77	0.24	0.05	0.51
260991003	7	-10.18	1.58	-0.03	0.06	-0.06
260990009	7	-10.82	2.40	0.26	0.07	0.42
261630019	7	-16.34	1.80	0.31	0.06	0.57
261630001	8	-12.04	1.82	0.09	0.05	0.22
261610008	8	-13.44	1.90	0.20	0.05	0.47
260910007	8	-12.90	2.38	0.34	0.05	0.63
261250001	8	-12.55	1.72	0.06	0.05	0.16
261470005	8	-9.08	2.02	0.25	0.05	0.55
260991003	8	-11.06	1.87	0.05	0.05	0.13
260990009	8	-10.56	2.76	0.24	0.07	0.43
261630019	8	-14.91	2.73	0.24	0.07	0.40
261630001	9	-15.93	2.26	0.21	0.05	0.48
261610008	9	-17.40	2.81	0.29	0.06	0.53
260910007	9	-17.12	2.96	0.43	0.06	0.68

261250001	9	-16.12	2.10	0.17	0.05	0.44
261470005	9	-11.81	2.26	0.33	0.05	0.67
260991003	9	-12.93	2.12	0.13	0.05	0.33
260990009	9	-11.30	3.34	0.28	0.07	0.47
261630019	9	-13.98	3.17	0.20	0.07	0.36
261630001	10	-23.05	3.53	0.34	0.07	0.55
261610008	10	-21.13	4.88	0.36	0.09	0.45
260910007	10	-19.20	4.43	0.47	0.08	0.59
261250001	10	-21.02	3.46	0.26	0.07	0.44
261470005	10	-10.10	3.14	0.31	0.06	0.55
260991003	10	-17.64	3.07	0.22	0.06	0.44
260990009	10	-10.36	3.86	0.28	0.07	0.46
261630019	10	-14.72	4.15	0.20	0.08	0.32
261630001	11	-26.11	5.08	0.39	0.09	0.49
261610008	11	-22.40	7.57	0.36	0.13	0.34
260910007	11	-17.72	6.14	0.44	0.11	0.47
261250001	11	-24.50	5.76	0.30	0.10	0.36
261470005	11	-8.16	3.11	0.29	0.06	0.56
260991003	11	-21.81	5.24	0.29	0.09	0.37
260990009	11	-8.71	4.47	0.27	0.08	0.41
261630019	11	-15.59	5.41	0.22	0.09	0.29
261630001	12	-25.25	6.73	0.37	0.11	0.39
261610008	12	-18.45	8.55	0.32	0.14	0.28
260910007	12	-18.51	6.65	0.48	0.11	0.48
261250001	12	-24.66	7.48	0.31	0.12	0.30
261470005	12	-7.01	3.05	0.29	0.05	0.57
260991003	12	-22.73	6.47	0.30	0.11	0.33
260990009	12	-5.18	5.28	0.22	0.09	0.30
261630019	12	-15.21	6.43	0.23	0.10	0.27
261630001	13	-23.57	7.60	0.34	0.12	0.33
261610008	13	-16.74	8.67	0.31	0.14	0.28
260910007	13	-15.63	6.95	0.46	0.12	0.45
261250001	13	-31.16	8.02	0.42	0.13	0.38
261470005	13	-7.62	2.80	0.32	0.05	0.65
260991003	13	-23.78	6.71	0.32	0.11	0.34
260990009	13	-2.69	5.25	0.18	0.09	0.26
261630019	13	-16.36	6.28	0.26	0.10	0.32
261630001	14	-25.04	8.13	0.36	0.13	0.33
261610008	14	-16.97	8.60	0.32	0.14	0.28
260910007	14	-10.03	6.81	0.37	0.11	0.39

261250001	14	-31.31	7.04	0.43	0.12	0.42
261470005	14	-7.86	2.30	0.32	0.04	0.72
260991003	14	-27.03	6.49	0.37	0.11	0.39
260990009	14	-0.17	5.43	0.12	0.09	0.17
261630019	14	-20.42	5.87	0.34	0.09	0.42
261630001	15	-28.66	7.16	0.44	0.12	0.42
261610008	15	-17.78	8.17	0.33	0.14	0.29
260910007	15	-7.19	6.32	0.33	0.11	0.37
261250001	15	-29.51	5.28	0.41	0.09	0.49
261470005	15	-5.27	2.25	0.25	0.04	0.63
260991003	15	-30.46	5.42	0.43	0.10	0.50
260990009	15	-2.96	5.71	0.15	0.09	0.20
261630019	15	-25.01	5.57	0.42	0.09	0.50
261630001	16	-29.36	4.58	0.48	0.08	0.59
261610008	16	-14.89	7.14	0.27	0.13	0.26
260910007	16	-6.30	5.66	0.31	0.10	0.39
261250001	16	-27.36	4.16	0.40	0.08	0.55
261470005	16	-1.65	2.61	0.15	0.05	0.37
260991003	16	-30.20	4.53	0.45	0.09	0.55
260990009	16	-11.78	5.36	0.29	0.10	0.36
261630019	16	-28.40	5.27	0.48	0.09	0.56
261630001	17	-29.92	3.20	0.49	0.07	0.68
261610008	17	-26.49	5.48	0.47	0.12	0.46
260910007	17	-6.91	4.87	0.31	0.09	0.41
261250001	17	-26.87	3.23	0.39	0.07	0.58
261470005	17	-2.26	2.68	0.13	0.06	0.29
260991003	17	-22.42	3.40	0.29	0.08	0.44
260990009	17	-17.02	4.45	0.39	0.09	0.48
261630019	17	-32.61	5.48	0.56	0.10	0.57
261630001	18	-29.41	2.67	0.49	0.07	0.67
261610008	18	-34.06	4.51	0.63	0.11	0.59
260910007	18	-8.63	5.37	0.32	0.10	0.37
261250001	18	-22.72	3.31	0.21	0.09	0.28
261470005	18	-6.36	2.22	0.20	0.05	0.47
260991003	18	-17.36	3.22	0.08	0.09	0.11
260990009	18	-16.73	4.09	0.36	0.10	0.44
261630019	18	-33.87	4.69	0.64	0.10	0.63
261630001	19	-26.91	2.40	0.44	0.07	0.63
261610008	19	-33.09	4.31	0.62	0.12	0.56
260910007	19	-11.02	5.65	0.35	0.11	0.37

261250001	19	-21.15	3.24	0.11	0.11	0.13
261470005	19	-8.76	1.90	0.27	0.04	0.61
260991003	19	-19.56	3.05	0.12	0.10	0.15
260990009	19	-16.07	3.88	0.34	0.10	0.41
261630019	19	-30.28	3.55	0.63	0.08	0.70
261630001	20	-23.38	2.60	0.36	0.08	0.51
261610008	20	-26.77	4.46	0.46	0.13	0.41
260910007	20	-15.06	4.76	0.43	0.10	0.48
261250001	20	-21.07	2.74	0.19	0.09	0.25
261470005	20	-10.25	1.91	0.32	0.05	0.66
260991003	20	-20.08	2.60	0.22	0.09	0.30
260990009	20	-15.98	3.42	0.38	0.09	0.46
261630019	20	-26.06	2.96	0.59	0.07	0.72
261630001	21	-20.54	2.86	0.30	0.09	0.41
261610008	21	-22.24	3.56	0.38	0.11	0.42
260910007	21	-17.32	3.68	0.48	0.08	0.61
261250001	21	-19.80	2.30	0.28	0.08	0.42
261470005	21	-10.62	1.96	0.34	0.05	0.67
260991003	21	-19.79	2.56	0.29	0.09	0.39
260990009	21	-15.95	2.97	0.42	0.09	0.54
261630019	21	-19.13	2.84	0.45	0.07	0.64
261630001	22	-16.89	2.98	0.24	0.09	0.34
261610008	22	-18.88	2.90	0.34	0.09	0.46
260910007	22	-17.75	3.34	0.49	0.08	0.63
261250001	22	-22.21	1.98	0.44	0.06	0.67
261470005	22	-9.63	2.11	0.32	0.05	0.60
260991003	22	-21.67	2.57	0.42	0.08	0.55
260990009	22	-13.99	2.74	0.39	0.08	0.54
261630019	22	-14.56	3.27	0.34	0.08	0.48
261630001	23	-17.05	2.67	0.30	0.08	0.45
261610008	23	-18.09	2.45	0.36	0.07	0.55
260910007	23	-17.68	3.38	0.49	0.08	0.61
261250001	23	-21.31	2.79	0.44	0.09	0.55
261470005	23	-8.79	2.16	0.30	0.06	0.56
260991003	23	-19.79	2.78	0.39	0.09	0.50
260990009	23	-12.00	2.48	0.35	0.07	0.53
261630019	23	-13.75	3.26	0.33	0.08	0.46

Table S11. Summary of linear regression data for first order NO_x sensitivities at Detroit sites in the 50% NO_x cut model run ($S_{NO_x} = \text{slope} \times O_3 + \text{intercept}$).

Site	Hour	Intercept		Slope		Correlation Coefficient
		Value	Standard Error	Value	Standard Error	
261630001	0	-11.09	1.21	0.38	0.04	0.81
261610008	0	-11.60	1.11	0.41	0.03	0.85
260910007	0	-11.11	1.82	0.42	0.05	0.77
261250001	0	-12.16	1.07	0.41	0.03	0.85
261470005	0	-7.69	1.09	0.33	0.03	0.82
260991003	0	-10.51	0.97	0.35	0.03	0.84
260990009	0	-7.38	1.07	0.32	0.03	0.80
261630019	0	-10.81	1.22	0.39	0.03	0.85
261630001	1	-11.23	1.10	0.39	0.03	0.83
261610008	1	-10.88	1.02	0.39	0.03	0.85
260910007	1	-10.75	1.59	0.42	0.04	0.80
261250001	1	-11.76	1.10	0.39	0.03	0.84
261470005	1	-8.24	1.12	0.36	0.03	0.83
260991003	1	-10.70	1.00	0.36	0.03	0.84
260990009	1	-7.52	0.98	0.33	0.03	0.83
261630019	1	-9.80	1.27	0.36	0.03	0.82
261630001	2	-11.64	1.07	0.40	0.04	0.83
261610008	2	-10.72	1.01	0.39	0.03	0.84
260910007	2	-10.20	1.44	0.41	0.04	0.81
261250001	2	-11.50	1.14	0.39	0.04	0.80
261470005	2	-8.18	1.22	0.36	0.04	0.79
260991003	2	-11.22	1.03	0.37	0.03	0.82
260990009	2	-7.91	0.98	0.34	0.03	0.83
261630019	2	-9.67	1.24	0.35	0.03	0.80
261630001	3	-12.89	0.98	0.41	0.04	0.80
261610008	3	-11.16	0.93	0.38	0.03	0.82
260910007	3	-9.18	1.28	0.38	0.04	0.81
261250001	3	-12.09	1.02	0.37	0.04	0.77
261470005	3	-7.50	1.18	0.33	0.04	0.75
260991003	3	-12.28	0.95	0.38	0.04	0.79
260990009	3	-8.15	1.04	0.33	0.03	0.79
261630019	3	-10.60	1.13	0.36	0.03	0.80
261630001	4	-13.90	1.00	0.39	0.06	0.67
261610008	4	-12.80	0.87	0.39	0.04	0.78
260910007	4	-8.63	1.20	0.36	0.03	0.80

261250001	4	-14.14	0.91	0.36	0.05	0.70
261470005	4	-7.49	1.06	0.31	0.04	0.73
260991003	4	-13.69	0.92	0.36	0.05	0.68
260990009	4	-8.85	1.00	0.33	0.04	0.77
261630019	4	-12.29	1.06	0.36	0.04	0.76
261630001	5	-10.61	1.27	0.14	0.08	0.22
261610008	5	-11.57	0.90	0.31	0.05	0.64
260910007	5	-7.75	1.08	0.33	0.03	0.80
261250001	5	-12.56	0.90	0.23	0.05	0.48
261470005	5	-7.54	0.99	0.30	0.04	0.71
260991003	5	-12.24	0.84	0.25	0.05	0.54
260990009	5	-9.49	0.97	0.34	0.04	0.75
261630019	5	-13.19	1.11	0.37	0.05	0.71
261630001	6	-11.44	1.08	0.24	0.06	0.49
261610008	6	-10.31	0.93	0.27	0.04	0.64
260910007	6	-7.37	1.01	0.32	0.03	0.81
261250001	6	-12.28	0.87	0.23	0.05	0.55
261470005	6	-8.01	0.98	0.32	0.04	0.75
260991003	6	-12.01	0.80	0.26	0.04	0.62
260990009	6	-9.73	1.07	0.35	0.04	0.75
261630019	6	-13.49	1.17	0.38	0.05	0.74
261630001	7	-12.77	1.17	0.29	0.04	0.65
261610008	7	-11.86	1.04	0.32	0.04	0.77
260910007	7	-8.85	1.14	0.34	0.03	0.82
261250001	7	-12.65	1.06	0.24	0.04	0.62
261470005	7	-8.48	1.10	0.32	0.03	0.79
260991003	7	-11.45	1.19	0.23	0.04	0.56
260990009	7	-8.42	1.45	0.28	0.04	0.65
261630019	7	-15.10	1.40	0.41	0.04	0.77
261630001	8	-13.92	1.41	0.31	0.04	0.73
261610008	8	-14.08	1.38	0.37	0.04	0.80
260910007	8	-11.16	1.42	0.39	0.03	0.83
261250001	8	-14.37	1.36	0.30	0.04	0.73
261470005	8	-9.87	1.10	0.35	0.03	0.86
260991003	8	-12.02	1.38	0.26	0.04	0.67
260990009	8	-9.29	1.75	0.30	0.04	0.68
261630019	8	-14.48	1.95	0.35	0.05	0.67
261630001	9	-17.27	1.86	0.40	0.04	0.78
261610008	9	-17.57	2.14	0.44	0.05	0.78
260910007	9	-13.84	1.85	0.43	0.04	0.83

261250001	9	-17.67	1.62	0.39	0.04	0.82
261470005	9	-11.95	1.39	0.40	0.03	0.87
260991003	9	-14.19	1.55	0.33	0.03	0.78
260990009	9	-10.13	2.06	0.33	0.04	0.72
261630019	9	-15.07	2.23	0.35	0.05	0.69
261630001	10	-22.85	2.66	0.50	0.05	0.79
261610008	10	-21.02	3.46	0.49	0.07	0.70
260910007	10	-15.64	2.40	0.47	0.04	0.80
261250001	10	-20.73	2.27	0.45	0.04	0.80
261470005	10	-10.71	1.51	0.37	0.03	0.85
260991003	10	-17.61	1.92	0.41	0.04	0.82
260990009	10	-11.11	1.73	0.37	0.03	0.84
261630019	10	-17.01	2.72	0.39	0.05	0.71
261630001	11	-24.91	3.21	0.54	0.06	0.78
261610008	11	-23.64	3.69	0.54	0.06	0.74
260910007	11	-14.35	2.97	0.45	0.05	0.74
261250001	11	-21.99	2.83	0.48	0.05	0.78
261470005	11	-10.37	1.71	0.36	0.03	0.84
260991003	11	-19.27	2.67	0.44	0.05	0.77
260990009	11	-12.68	1.82	0.41	0.03	0.86
261630019	11	-17.95	2.76	0.42	0.05	0.76
261630001	12	-24.36	3.47	0.53	0.06	0.77
261610008	12	-23.24	3.70	0.56	0.06	0.76
260910007	12	-14.44	3.39	0.46	0.06	0.72
261250001	12	-21.44	3.19	0.48	0.05	0.76
261470005	12	-10.06	1.73	0.36	0.03	0.84
260991003	12	-18.80	2.89	0.44	0.05	0.76
260990009	12	-11.10	1.76	0.38	0.03	0.86
261630019	12	-18.07	2.81	0.44	0.05	0.78
261630001	13	-21.37	3.09	0.49	0.05	0.78
261610008	13	-20.80	3.77	0.52	0.06	0.74
260910007	13	-12.37	3.17	0.43	0.05	0.72
261250001	13	-22.16	2.83	0.49	0.05	0.80
261470005	13	-9.87	1.74	0.37	0.03	0.84
260991003	13	-18.50	2.45	0.44	0.04	0.81
260990009	13	-9.62	1.65	0.36	0.03	0.86
261630019	13	-17.03	2.78	0.43	0.04	0.78
261630001	14	-19.57	3.16	0.46	0.05	0.76
261610008	14	-17.68	3.45	0.47	0.06	0.74
260910007	14	-10.59	2.71	0.40	0.04	0.75

261250001	14	-23.74	2.60	0.52	0.04	0.83
261470005	14	-9.72	1.71	0.37	0.03	0.85
260991003	14	-20.60	2.53	0.47	0.04	0.81
260990009	14	-8.47	1.67	0.33	0.03	0.84
261630019	14	-17.10	2.69	0.43	0.04	0.79
261630001	15	-19.99	3.04	0.47	0.05	0.76
261610008	15	-16.21	3.00	0.45	0.05	0.76
260910007	15	-9.78	2.67	0.39	0.04	0.75
261250001	15	-25.85	2.26	0.56	0.04	0.87
261470005	15	-8.11	1.57	0.33	0.03	0.84
260991003	15	-23.09	2.45	0.51	0.04	0.83
260990009	15	-8.15	1.89	0.32	0.03	0.80
261630019	15	-18.62	2.56	0.45	0.04	0.81
261630001	16	-20.48	2.42	0.48	0.04	0.81
261610008	16	-16.10	2.85	0.45	0.05	0.75
260910007	16	-9.98	2.67	0.39	0.05	0.74
261250001	16	-25.64	2.11	0.57	0.04	0.88
261470005	16	-6.38	1.50	0.29	0.03	0.80
260991003	16	-23.14	2.35	0.52	0.05	0.83
260990009	16	-9.82	1.95	0.34	0.03	0.79
261630019	16	-19.72	2.51	0.47	0.04	0.81
261630001	17	-19.63	2.01	0.48	0.04	0.82
261610008	17	-19.62	2.71	0.52	0.06	0.76
260910007	17	-10.61	2.43	0.41	0.04	0.77
261250001	17	-22.68	1.96	0.53	0.04	0.85
261470005	17	-6.24	1.37	0.28	0.03	0.79
260991003	17	-20.38	1.76	0.49	0.04	0.85
260990009	17	-11.92	1.96	0.39	0.04	0.78
261630019	17	-19.74	2.59	0.48	0.05	0.79
261630001	18	-19.05	1.66	0.49	0.04	0.83
261610008	18	-21.10	2.46	0.57	0.06	0.77
260910007	18	-11.03	2.09	0.42	0.04	0.80
261250001	18	-20.87	1.89	0.51	0.05	0.78
261470005	18	-6.45	1.15	0.27	0.03	0.81
260991003	18	-18.69	1.79	0.47	0.05	0.76
260990009	18	-11.63	1.78	0.38	0.04	0.76
261630019	18	-18.20	2.12	0.48	0.05	0.81
261630001	19	-17.39	1.34	0.47	0.04	0.84
261610008	19	-19.02	2.27	0.53	0.06	0.74
260910007	19	-11.22	2.27	0.41	0.05	0.76

261250001	19	-17.32	1.85	0.42	0.06	0.66
261470005	19	-7.13	1.09	0.29	0.03	0.82
260991003	19	-17.12	1.62	0.45	0.06	0.73
260990009	19	-10.47	1.44	0.35	0.04	0.78
261630019	19	-15.52	1.66	0.46	0.04	0.83
261630001	20	-16.23	1.33	0.46	0.04	0.83
261610008	20	-14.84	2.33	0.41	0.07	0.62
260910007	20	-11.93	2.24	0.43	0.05	0.76
261250001	20	-15.91	1.62	0.41	0.06	0.69
261470005	20	-7.98	1.14	0.32	0.03	0.83
260991003	20	-15.90	1.28	0.45	0.05	0.79
260990009	20	-9.81	1.28	0.35	0.04	0.79
261630019	20	-14.47	1.40	0.46	0.03	0.87
261630001	21	-14.63	1.39	0.43	0.04	0.80
261610008	21	-13.02	1.93	0.38	0.06	0.65
260910007	21	-12.34	1.91	0.44	0.04	0.80
261250001	21	-15.49	1.38	0.45	0.05	0.78
261470005	21	-8.28	1.10	0.34	0.03	0.84
260991003	21	-14.19	1.09	0.43	0.04	0.83
260990009	21	-9.44	1.20	0.36	0.03	0.80
261630019	21	-14.01	1.19	0.47	0.03	0.90
261630001	22	-12.79	1.28	0.40	0.04	0.82
261610008	22	-12.63	1.55	0.40	0.05	0.74
260910007	22	-12.48	1.88	0.45	0.04	0.80
261250001	22	-14.49	1.17	0.46	0.04	0.84
261470005	22	-8.02	1.09	0.33	0.03	0.84
260991003	22	-12.47	0.99	0.40	0.03	0.85
260990009	22	-8.40	1.16	0.33	0.03	0.79
261630019	22	-13.32	1.14	0.46	0.03	0.90
261630001	23	-11.63	1.26	0.39	0.04	0.81
261610008	23	-11.96	1.27	0.40	0.04	0.81
260910007	23	-11.99	1.99	0.44	0.05	0.76
261250001	23	-12.94	1.11	0.43	0.03	0.85
261470005	23	-7.59	1.13	0.32	0.03	0.82
260991003	23	-11.35	0.96	0.37	0.03	0.85
260990009	23	-7.75	1.12	0.32	0.03	0.79
261630019	23	-12.28	1.16	0.43	0.03	0.89

Table S12. Summary of linear regression data for first order NO_x sensitivities at Detroit sites in the 75% NO_x cut model run ($S_{\text{NO}_x} = \text{slope} \times \text{O}_3 + \text{intercept}$).

Site	Hour	Intercept		Slope		Correlation Coefficient
		Value	Standard Error	Value	Standard Error	
261630001	0	-5.97	0.97	0.28	0.03	0.79
261610008	0	-6.05	0.93	0.28	0.03	0.80
260910007	0	-6.83	1.32	0.31	0.03	0.77
261250001	0	-7.06	0.88	0.31	0.03	0.83
261470005	0	-5.60	0.84	0.27	0.02	0.83
260991003	0	-6.37	0.81	0.29	0.02	0.83
260990009	0	-5.11	0.76	0.26	0.02	0.84
261630019	0	-7.24	1.11	0.31	0.03	0.82
261630001	1	-6.13	0.89	0.29	0.03	0.80
261610008	1	-5.87	0.87	0.28	0.03	0.81
260910007	1	-6.64	1.19	0.31	0.03	0.79
261250001	1	-6.87	0.90	0.30	0.03	0.82
261470005	1	-5.93	0.85	0.28	0.02	0.84
260991003	1	-6.59	0.78	0.29	0.02	0.84
260990009	1	-5.48	0.75	0.27	0.02	0.85
261630019	1	-6.66	1.10	0.29	0.03	0.79
261630001	2	-6.35	0.86	0.29	0.03	0.80
261610008	2	-5.91	0.86	0.29	0.03	0.80
260910007	2	-6.27	1.12	0.30	0.03	0.79
261250001	2	-6.97	0.93	0.30	0.03	0.79
261470005	2	-6.11	0.93	0.30	0.03	0.81
260991003	2	-6.69	0.78	0.29	0.03	0.82
260990009	2	-5.56	0.73	0.27	0.02	0.85
261630019	2	-6.35	1.05	0.28	0.03	0.78
261630001	3	-6.83	0.74	0.31	0.03	0.80
261610008	3	-5.87	0.74	0.28	0.03	0.80
260910007	3	-5.50	1.01	0.27	0.03	0.79
261250001	3	-6.77	0.79	0.29	0.03	0.77
261470005	3	-5.64	0.90	0.29	0.03	0.79
260991003	3	-6.84	0.68	0.29	0.03	0.81
260990009	3	-5.21	0.75	0.26	0.02	0.81
261630019	3	-6.12	0.90	0.27	0.03	0.78
261630001	4	-8.93	0.64	0.38	0.04	0.81
261610008	4	-6.92	0.61	0.31	0.03	0.81
260910007	4	-5.10	0.94	0.26	0.03	0.78

261250001	4	-8.23	0.63	0.32	0.03	0.78
261470005	4	-5.03	0.80	0.26	0.03	0.77
260991003	4	-8.11	0.58	0.32	0.03	0.79
260990009	4	-4.86	0.69	0.24	0.02	0.78
261630019	4	-6.71	0.74	0.27	0.03	0.79
261630001	5	-9.66	0.81	0.33	0.05	0.66
261610008	5	-8.29	0.61	0.33	0.03	0.80
260910007	5	-4.68	0.87	0.25	0.03	0.77
261250001	5	-9.92	0.64	0.33	0.04	0.75
261470005	5	-4.73	0.74	0.25	0.03	0.74
260991003	5	-9.44	0.58	0.33	0.03	0.77
260990009	5	-5.24	0.61	0.24	0.02	0.79
261630019	5	-8.30	0.73	0.31	0.03	0.79
261630001	6	-10.36	0.73	0.36	0.04	0.78
261610008	6	-8.34	0.70	0.31	0.03	0.79
260910007	6	-5.05	0.80	0.26	0.02	0.81
261250001	6	-10.34	0.67	0.33	0.04	0.77
261470005	6	-5.39	0.70	0.27	0.03	0.80
260991003	6	-9.41	0.64	0.31	0.03	0.76
260990009	6	-5.88	0.70	0.26	0.03	0.79
261630019	6	-9.44	0.83	0.33	0.03	0.80
261630001	7	-10.80	0.84	0.34	0.03	0.82
261610008	7	-9.29	0.79	0.33	0.03	0.85
260910007	7	-6.56	0.84	0.29	0.02	0.86
261250001	7	-10.25	0.80	0.31	0.03	0.80
261470005	7	-6.51	0.76	0.28	0.02	0.85
260991003	7	-8.54	0.84	0.26	0.03	0.73
260990009	7	-5.85	0.92	0.24	0.03	0.75
261630019	7	-10.90	1.01	0.35	0.03	0.81
261630001	8	-11.61	1.03	0.35	0.03	0.85
261610008	8	-10.81	1.04	0.36	0.03	0.86
260910007	8	-7.56	1.09	0.31	0.03	0.84
261250001	8	-11.65	1.03	0.35	0.03	0.86
261470005	8	-7.88	0.91	0.31	0.02	0.88
260991003	8	-9.59	0.96	0.30	0.03	0.84
260990009	8	-7.04	0.98	0.27	0.02	0.83
261630019	8	-10.79	1.32	0.32	0.03	0.77
261630001	9	-13.06	1.19	0.39	0.03	0.89
261610008	9	-11.68	1.38	0.37	0.03	0.85
260910007	9	-8.09	1.33	0.32	0.03	0.83

261250001	9	-11.99	1.08	0.37	0.02	0.90
261470005	9	-8.87	1.23	0.32	0.03	0.85
260991003	9	-10.51	0.97	0.34	0.02	0.90
260990009	9	-8.20	1.03	0.30	0.02	0.88
261630019	9	-11.00	1.32	0.34	0.03	0.84
261630001	10	-12.62	1.47	0.38	0.03	0.87
261610008	10	-11.07	1.61	0.37	0.03	0.84
260910007	10	-6.98	1.54	0.30	0.03	0.80
261250001	10	-10.91	1.42	0.36	0.03	0.86
261470005	10	-8.50	1.36	0.30	0.03	0.83
260991003	10	-10.68	1.25	0.35	0.02	0.88
260990009	10	-9.37	1.26	0.33	0.02	0.88
261630019	10	-9.98	1.44	0.34	0.03	0.85
261630001	11	-9.37	1.56	0.33	0.03	0.84
261610008	11	-9.27	1.97	0.34	0.03	0.79
260910007	11	-5.89	1.95	0.28	0.03	0.72
261250001	11	-9.73	1.92	0.34	0.03	0.79
261470005	11	-8.41	1.41	0.29	0.03	0.83
260991003	11	-9.32	1.66	0.33	0.03	0.82
260990009	11	-9.90	1.30	0.33	0.02	0.89
261630019	11	-8.62	1.75	0.32	0.03	0.81
261630001	12	-6.91	1.88	0.30	0.03	0.78
261610008	12	-6.20	2.17	0.29	0.04	0.73
260910007	12	-6.33	2.45	0.29	0.04	0.66
261250001	12	-8.33	2.19	0.32	0.04	0.75
261470005	12	-8.09	1.41	0.29	0.02	0.83
260991003	12	-8.48	1.58	0.31	0.03	0.83
260990009	12	-9.41	1.55	0.32	0.03	0.85
261630019	12	-8.06	1.93	0.31	0.03	0.78
261630001	13	-6.68	1.93	0.29	0.03	0.77
261610008	13	-4.77	2.26	0.27	0.04	0.69
260910007	13	-6.09	2.47	0.28	0.04	0.65
261250001	13	-7.14	1.83	0.29	0.03	0.78
261470005	13	-8.07	1.44	0.29	0.02	0.83
260991003	13	-8.09	1.28	0.30	0.02	0.87
260990009	13	-8.72	1.52	0.31	0.02	0.85
261630019	13	-7.56	1.90	0.29	0.03	0.78
261630001	14	-6.60	1.88	0.29	0.03	0.77
261610008	14	-4.94	2.15	0.27	0.03	0.70
260910007	14	-6.53	2.21	0.28	0.04	0.70

261250001	14	-8.05	1.61	0.30	0.03	0.82
261470005	14	-7.79	1.42	0.29	0.02	0.83
260991003	14	-9.07	1.29	0.31	0.02	0.88
260990009	14	-8.03	1.37	0.29	0.02	0.86
261630019	14	-7.06	1.74	0.28	0.03	0.79
261630001	15	-7.78	1.58	0.30	0.03	0.82
261610008	15	-6.21	2.03	0.28	0.03	0.73
260910007	15	-6.87	2.12	0.29	0.04	0.72
261250001	15	-10.52	1.46	0.34	0.03	0.86
261470005	15	-6.67	1.37	0.27	0.02	0.82
260991003	15	-10.54	1.31	0.33	0.02	0.88
260990009	15	-7.19	1.35	0.28	0.02	0.85
261630019	15	-7.62	1.65	0.28	0.03	0.80
261630001	16	-9.07	1.35	0.32	0.02	0.86
261610008	16	-7.80	1.76	0.31	0.03	0.78
260910007	16	-7.07	2.00	0.30	0.03	0.75
261250001	16	-11.55	1.35	0.35	0.03	0.87
261470005	16	-5.67	1.32	0.25	0.02	0.79
260991003	16	-11.00	1.31	0.34	0.03	0.87
260990009	16	-6.34	1.30	0.27	0.02	0.83
261630019	16	-8.79	1.66	0.30	0.03	0.80
261630001	17	-9.30	1.23	0.33	0.03	0.85
261610008	17	-9.24	1.43	0.35	0.03	0.83
260910007	17	-7.07	1.77	0.30	0.03	0.78
261250001	17	-10.44	1.16	0.34	0.03	0.87
261470005	17	-5.39	1.19	0.24	0.02	0.79
260991003	17	-10.10	1.02	0.34	0.02	0.89
260990009	17	-6.14	1.20	0.27	0.02	0.81
261630019	17	-9.22	1.64	0.31	0.03	0.79
261630001	18	-8.75	1.09	0.33	0.03	0.83
261610008	18	-9.54	1.39	0.36	0.03	0.80
260910007	18	-7.25	1.53	0.31	0.03	0.81
261250001	18	-9.62	1.15	0.34	0.03	0.81
261470005	18	-5.34	1.02	0.24	0.02	0.80
260991003	18	-9.01	1.05	0.33	0.03	0.82
260990009	18	-5.57	1.00	0.25	0.02	0.81
261630019	18	-8.68	1.53	0.31	0.03	0.78
261630001	19	-7.81	0.97	0.31	0.03	0.82
261610008	19	-8.73	1.32	0.34	0.04	0.77
260910007	19	-7.30	1.34	0.31	0.03	0.83

261250001	19	-7.70	1.21	0.30	0.04	0.68
261470005	19	-5.38	0.91	0.24	0.02	0.82
260991003	19	-7.61	1.03	0.31	0.04	0.75
260990009	19	-5.26	0.84	0.24	0.02	0.83
261630019	19	-7.68	1.33	0.31	0.03	0.78
261630001	20	-7.56	0.99	0.30	0.03	0.79
261610008	20	-6.57	1.41	0.27	0.04	0.65
260910007	20	-6.82	1.31	0.30	0.03	0.81
261250001	20	-7.02	1.10	0.28	0.04	0.69
261470005	20	-5.75	0.89	0.25	0.02	0.83
260991003	20	-7.19	0.88	0.30	0.03	0.78
260990009	20	-5.32	0.76	0.25	0.02	0.84
261630019	20	-7.58	1.17	0.31	0.03	0.82
261630001	21	-7.26	1.06	0.30	0.03	0.78
261610008	21	-5.65	1.24	0.25	0.04	0.65
260910007	21	-7.26	1.29	0.31	0.03	0.81
261250001	21	-6.93	0.98	0.29	0.03	0.76
261470005	21	-5.92	0.89	0.26	0.02	0.83
260991003	21	-6.82	0.77	0.30	0.03	0.83
260990009	21	-5.23	0.74	0.25	0.02	0.84
261630019	21	-8.05	1.05	0.33	0.03	0.86
261630001	22	-6.82	1.03	0.30	0.03	0.80
261610008	22	-5.96	1.12	0.27	0.03	0.73
260910007	22	-7.69	1.34	0.32	0.03	0.80
261250001	22	-6.88	0.88	0.30	0.03	0.81
261470005	22	-5.94	0.89	0.27	0.02	0.83
260991003	22	-6.26	0.72	0.28	0.02	0.84
260990009	22	-4.99	0.74	0.25	0.02	0.83
261630019	22	-8.42	1.05	0.35	0.03	0.87
261630001	23	-6.37	1.00	0.29	0.03	0.80
261610008	23	-6.11	1.02	0.28	0.03	0.77
260910007	23	-7.46	1.41	0.32	0.03	0.77
261250001	23	-6.89	0.91	0.31	0.03	0.82
261470005	23	-5.71	0.87	0.26	0.02	0.83
260991003	23	-6.28	0.76	0.28	0.02	0.84
260990009	23	-5.03	0.73	0.25	0.02	0.84
261630019	23	-8.08	1.09	0.34	0.03	0.85

Table S13. Summary of linear regression data for second order NO_x sensitivities at Detroit sites in the base model run ($S^2_{NOx} = \text{slope} \times S_{NOx} + \text{intercept}$).

Site	Hour	Intercept		Slope		Correlation Coefficient
		Value	Standard Error	Value	Standard Error	
261630001	0	-16.08	2.90	-0.61	0.25	-0.29
261610008	0	-15.91	2.35	-1.01	0.22	-0.52
260910007	0	-12.34	1.46	-0.87	0.14	-0.63
261250001	0	-12.68	3.81	-0.19	0.32	-0.08
261470005	0	-7.52	0.99	-0.52	0.14	-0.43
260991003	0	-7.63	3.18	0.52	0.27	0.24
260990009	0	-9.70	1.39	0.03	0.18	0.02
261630019	0	-15.31	2.93	-0.02	0.33	-0.01
261630001	1	-16.05	2.33	-0.84	0.22	-0.45
261610008	1	-15.90	1.78	-1.04	0.18	-0.59
260910007	1	-11.89	1.40	-0.94	0.14	-0.64
261250001	1	-16.15	2.28	-0.92	0.22	-0.47
261470005	1	-8.09	1.06	-0.68	0.15	-0.50
260991003	1	-12.72	2.96	-0.40	0.29	-0.17
260990009	1	-10.63	2.13	0.61	0.27	0.28
261630019	1	-14.23	2.36	-0.30	0.31	-0.13
261630001	2	-17.70	2.63	-1.10	0.23	-0.52
261610008	2	-16.91	1.96	-1.06	0.20	-0.56
260910007	2	-11.70	1.38	-0.97	0.16	-0.61
261250001	2	-17.41	2.10	-1.12	0.21	-0.57
261470005	2	-9.41	1.52	-0.43	0.24	-0.23
260991003	2	-14.87	2.68	-0.96	0.26	-0.44
260990009	2	-9.93	1.76	0.06	0.24	0.03
261630019	2	-13.97	2.17	-0.45	0.28	-0.20
261630001	3	-16.47	4.75	-1.25	0.35	-0.42
261610008	3	-17.25	3.06	-1.12	0.26	-0.48
260910007	3	-11.37	1.36	-0.89	0.17	-0.55
261250001	3	-18.26	4.21	-1.28	0.33	-0.45
261470005	3	-9.65	1.44	-0.50	0.24	-0.25
260991003	3	-10.49	3.87	-0.74	0.29	-0.31
260990009	3	-9.14	1.17	-0.32	0.16	-0.26
261630019	3	-12.85	2.40	-0.54	0.25	-0.27
261630001	4	2.59	5.21	-0.46	0.36	-0.16
261610008	4	-4.51	5.47	-0.68	0.41	-0.21
260910007	4	-10.77	1.31	-0.84	0.18	-0.51

261250001	4	9.62	5.07	0.06	0.34	0.02
261470005	4	-10.25	1.27	-0.80	0.19	-0.48
260991003	4	5.40	4.19	-0.29	0.29	-0.13
260990009	4	-8.32	1.31	-0.50	0.15	-0.40
261630019	4	-11.17	2.96	-0.87	0.23	-0.44
261630001	5	2.78	2.92	-0.63	0.20	-0.38
261610008	5	0.60	3.83	-0.48	0.33	-0.19
260910007	5	-9.93	1.27	-0.93	0.21	-0.49
261250001	5	6.09	3.08	-0.44	0.23	-0.24
261470005	5	-9.70	1.42	-1.08	0.20	-0.56
260991003	5	6.77	2.82	-0.36	0.23	-0.20
260990009	5	-6.91	1.55	-0.82	0.18	-0.51
261630019	5	-5.95	3.28	-1.01	0.25	-0.45
261630001	6	-0.65	3.56	-0.79	0.30	-0.32
261610008	6	-3.28	3.60	-0.61	0.37	-0.21
260910007	6	-9.30	1.32	-0.89	0.25	-0.42
261250001	6	5.16	3.65	-0.35	0.30	-0.15
261470005	6	-8.47	1.05	-1.17	0.18	-0.65
260991003	6	1.99	3.36	-0.63	0.30	-0.26
260990009	6	-6.40	1.06	-0.86	0.14	-0.62
261630019	6	-9.01	2.47	-1.33	0.22	-0.61
261630001	7	-2.60	4.01	-0.44	0.34	-0.16
261610008	7	-10.23	3.65	-0.96	0.40	-0.30
260910007	7	-9.57	1.36	-0.98	0.23	-0.47
261250001	7	-4.95	4.66	-0.71	0.36	-0.24
261470005	7	-7.87	0.83	-1.04	0.16	-0.66
260991003	7	-7.43	3.18	-0.91	0.27	-0.40
260990009	7	-7.00	0.79	-0.68	0.11	-0.62
261630019	7	-11.21	1.82	-1.38	0.18	-0.70
261630001	8	-11.57	4.09	-0.89	0.38	-0.29
261610008	8	-14.80	2.26	-1.49	0.26	-0.59
260910007	8	-10.55	1.35	-0.94	0.18	-0.56
261250001	8	-17.87	4.92	-1.49	0.42	-0.42
261470005	8	-9.59	1.52	-0.76	0.25	-0.36
260991003	8	-12.39	3.13	-0.98	0.29	-0.40
260990009	8	-8.60	0.84	-0.88	0.11	-0.71
261630019	8	-10.67	2.27	-0.90	0.22	-0.46
261630001	9	-19.27	3.07	-1.62	0.31	-0.56
261610008	9	-14.70	1.62	-1.33	0.17	-0.72
260910007	9	-11.09	1.56	-0.95	0.17	-0.59

261250001	9	-19.52	3.25	-1.50	0.30	-0.54
261470005	9	-15.47	4.50	-0.11	0.57	-0.03
260991003	9	-16.26	2.37	-1.25	0.25	-0.55
260990009	9	-9.78	0.94	-0.97	0.11	-0.76
261630019	9	-12.40	3.39	-0.76	0.34	-0.28
261630001	10	-20.04	2.18	-1.52	0.19	-0.72
261610008	10	-15.94	2.02	-1.33	0.16	-0.74
260910007	10	-12.49	2.16	-0.83	0.19	-0.50
261250001	10	-21.60	2.72	-1.53	0.22	-0.67
261470005	10	-19.07	3.65	0.31	0.37	0.11
260991003	10	-19.12	2.08	-1.34	0.19	-0.66
260990009	10	-13.53	1.64	-0.53	0.16	-0.40
261630019	10	-15.10	3.57	-0.73	0.33	-0.28
261630001	11	-19.67	2.34	-1.15	0.18	-0.64
261610008	11	-17.38	2.81	-0.71	0.18	-0.46
260910007	11	-16.73	3.10	-0.56	0.23	-0.30
261250001	11	-22.45	2.56	-1.23	0.17	-0.69
261470005	11	-12.79	3.70	-0.68	0.34	-0.25
260991003	11	-20.50	2.03	-1.09	0.15	-0.69
260990009	11	-16.90	2.18	-0.33	0.18	-0.23
261630019	11	-18.51	3.89	-0.76	0.31	-0.30
261630001	12	-20.11	2.34	-1.08	0.16	-0.67
261610008	12	-24.25	5.56	0.18	0.34	0.07
260910007	12	-18.06	3.77	-0.53	0.26	-0.25
261250001	12	-23.75	2.64	-1.02	0.15	-0.65
261470005	12	-10.50	3.04	-0.80	0.25	-0.38
260991003	12	-22.32	2.01	-0.94	0.13	-0.68
260990009	12	-24.22	3.04	0.27	0.23	0.15
261630019	12	-21.88	4.50	-0.56	0.33	-0.22
261630001	13	-20.30	2.49	-0.91	0.15	-0.61
261610008	13	-28.66	6.08	0.39	0.38	0.13
260910007	13	-15.88	3.53	-0.51	0.22	-0.28
261250001	13	-23.60	2.70	-0.95	0.14	-0.67
261470005	13	-5.45	3.11	-1.29	0.24	-0.57
260991003	13	-21.99	1.93	-0.70	0.12	-0.61
260990009	13	-25.74	3.06	0.37	0.23	0.20
261630019	13	-24.04	4.26	-0.58	0.32	-0.23
261630001	14	-20.25	2.14	-0.97	0.12	-0.71
261610008	14	-26.64	4.87	0.24	0.30	0.10
260910007	14	-16.74	3.39	-0.33	0.21	-0.20

261250001	14	-21.79	3.27	-1.12	0.16	-0.67
261470005	14	-5.05	2.90	-1.36	0.23	-0.60
260991003	14	-20.39	2.74	-0.73	0.15	-0.52
260990009	14	-24.13	2.72	0.33	0.20	0.20
261630019	14	-22.19	3.28	-0.77	0.24	-0.38
261630001	15	-18.63	1.80	-1.02	0.10	-0.79
261610008	15	-22.22	3.29	-0.13	0.20	-0.08
260910007	15	-15.67	3.33	-0.42	0.21	-0.25
261250001	15	-19.74	4.56	-1.52	0.24	-0.63
261470005	15	-10.15	2.99	-0.97	0.28	-0.41
260991003	15	-19.30	4.22	-1.06	0.23	-0.52
260990009	15	-21.98	2.37	0.23	0.17	0.17
261630019	15	-19.66	2.90	-0.86	0.20	-0.49
261630001	16	-17.57	2.37	-1.12	0.16	-0.67
261610008	16	-18.47	3.26	-0.56	0.22	-0.32
260910007	16	-12.87	3.57	-0.68	0.24	-0.35
261250001	16	-17.75	4.55	-1.31	0.27	-0.53
261470005	16	-15.92	3.00	-0.27	0.32	-0.11
260991003	16	-21.02	4.94	-1.64	0.27	-0.62
260990009	16	-17.12	2.10	-0.23	0.15	-0.19
261630019	16	-17.65	3.17	-1.14	0.20	-0.59
261630001	17	-20.89	2.86	-1.25	0.20	-0.64
261610008	17	-18.72	5.37	-1.26	0.36	-0.42
260910007	17	-16.63	3.74	-0.41	0.28	-0.18
261250001	17	-21.68	4.22	-1.39	0.26	-0.57
261470005	17	-15.37	2.41	0.08	0.30	0.04
260991003	17	-18.06	4.76	-0.95	0.30	-0.38
260990009	17	-13.14	1.89	-0.73	0.16	-0.52
261630019	17	-18.87	2.86	-1.29	0.16	-0.72
261630001	18	-25.04	3.76	-1.46	0.23	-0.64
261610008	18	-30.41	8.76	-2.36	0.50	-0.52
260910007	18	-18.76	2.36	-0.04	0.18	-0.03
261250001	18	-20.58	5.28	-0.98	0.27	-0.42
261470005	18	-10.98	1.44	-0.30	0.21	-0.18
260991003	18	-17.34	4.76	-0.60	0.27	-0.28
260990009	18	-13.03	1.95	-0.77	0.17	-0.50
261630019	18	-18.59	1.97	-0.60	0.12	-0.53
261630001	19	-24.00	4.11	-1.41	0.23	-0.62
261610008	19	-32.29	5.21	-2.04	0.27	-0.70
260910007	19	-14.71	1.69	-0.38	0.13	-0.35

261250001	19	-14.01	5.81	-0.49	0.27	-0.23
261470005	19	-8.76	1.10	-0.58	0.17	-0.41
260991003	19	-13.54	5.61	-0.47	0.29	-0.20
260990009	19	-12.12	1.67	-0.28	0.14	-0.24
261630019	19	-17.31	1.99	-0.32	0.14	-0.28
261630001	20	-18.81	4.58	-1.06	0.26	-0.46
261610008	20	-19.21	2.95	-0.76	0.15	-0.55
260910007	20	-13.50	1.65	-0.42	0.14	-0.37
261250001	20	-23.58	7.64	-1.27	0.40	-0.38
261470005	20	-7.73	0.98	-0.68	0.14	-0.53
260991003	20	-12.49	6.19	-0.57	0.35	-0.20
260990009	20	-10.80	1.49	-0.16	0.13	-0.16
261630019	20	-16.50	2.35	-0.52	0.18	-0.35
261630001	21	-17.23	4.06	-0.70	0.25	-0.35
261610008	21	-15.83	3.24	-0.75	0.19	-0.46
260910007	21	-12.90	1.54	-0.52	0.14	-0.44
261250001	21	-13.06	8.48	-0.81	0.55	-0.19
261470005	21	-7.64	1.04	-0.59	0.15	-0.46
260991003	21	-8.28	5.01	-0.21	0.32	-0.09
260990009	21	-9.48	1.12	-0.15	0.11	-0.18
261630019	21	-14.70	3.86	-0.47	0.34	-0.18
261630001	22	-10.24	5.25	0.22	0.34	0.08
261610008	22	-13.77	3.73	-0.68	0.26	-0.32
260910007	22	-12.57	1.42	-0.70	0.13	-0.57
261250001	22	-21.18	5.77	-1.77	0.43	-0.47
261470005	22	-7.71	1.08	-0.43	0.15	-0.35
260991003	22	-11.46	3.09	-0.35	0.21	-0.21
260990009	22	-8.67	0.94	-0.12	0.10	-0.15
261630019	22	-14.20	3.86	0.18	0.34	0.07
261630001	23	-13.64	4.44	0.03	0.34	0.01
261610008	23	-13.77	3.57	-0.60	0.29	-0.26
260910007	23	-12.49	1.45	-0.81	0.13	-0.63
261250001	23	-12.48	4.16	-0.30	0.31	-0.13
261470005	23	-7.69	1.06	-0.37	0.15	-0.31
260991003	23	-9.46	2.35	0.10	0.18	0.07
260990009	23	-8.68	0.95	-0.20	0.12	-0.22
261630019	23	-14.68	3.81	0.41	0.35	0.15

Table S14. Summary of linear regression data for second order NO_x sensitivities at Detroit sites in the 50% NO_x cut model run ($S^2_{NOx} = \text{slope} \times S_{NOx} + \text{intercept}$).

Site	Hour	Intercept		Slope		Correlation Coefficient
		Value	Standard Error	Value	Standard Error	
261630001	0	-6.68	0.58	-0.87	0.08	-0.81
261610008	0	-6.35	0.70	-0.77	0.10	-0.71
260910007	0	-3.84	0.78	-0.82	0.09	-0.78
261250001	0	-6.74	0.76	-0.82	0.12	-0.67
261470005	0	-2.27	0.58	-0.77	0.09	-0.74
260991003	0	-6.56	0.70	-0.87	0.12	-0.67
260990009	0	-3.37	0.61	-0.72	0.11	-0.66
261630019	0	-3.85	0.75	-1.05	0.10	-0.80
261630001	1	-6.42	0.54	-0.86	0.08	-0.81
261610008	1	-5.90	0.64	-0.83	0.10	-0.74
260910007	1	-3.56	0.74	-0.85	0.09	-0.79
261250001	1	-6.20	0.61	-0.84	0.10	-0.74
261470005	1	-2.30	0.53	-0.80	0.08	-0.78
260991003	1	-6.13	0.57	-0.89	0.10	-0.76
260990009	1	-3.02	0.66	-0.85	0.11	-0.70
261630019	1	-3.60	0.61	-1.07	0.09	-0.84
261630001	2	-7.22	0.54	-0.89	0.08	-0.81
261610008	2	-6.19	0.61	-0.90	0.10	-0.75
260910007	2	-3.41	0.75	-0.89	0.09	-0.77
261250001	2	-6.57	0.51	-0.96	0.09	-0.80
261470005	2	-2.33	0.50	-0.90	0.08	-0.81
260991003	2	-6.61	0.51	-0.87	0.09	-0.79
260990009	2	-3.20	0.57	-0.80	0.10	-0.72
261630019	2	-4.17	0.53	-1.04	0.09	-0.84
261630001	3	-9.30	0.74	-0.93	0.10	-0.78
261610008	3	-7.67	0.66	-0.87	0.11	-0.72
260910007	3	-3.57	0.77	-0.88	0.11	-0.73
261250001	3	-8.72	0.63	-0.95	0.10	-0.78
261470005	3	-2.83	0.43	-1.00	0.08	-0.84
260991003	3	-8.10	0.68	-0.83	0.10	-0.74
260990009	3	-3.87	0.51	-0.74	0.10	-0.69
261630019	3	-6.06	0.54	-0.90	0.09	-0.79
261630001	4	-8.30	2.00	-0.99	0.19	-0.56
261610008	4	-8.72	1.09	-0.90	0.13	-0.66
260910007	4	-3.76	0.76	-0.85	0.12	-0.69

261250001	4	-10.03	1.49	-1.06	0.14	-0.69
261470005	4	-4.11	0.37	-0.98	0.08	-0.84
260991003	4	-8.23	1.51	-0.91	0.15	-0.62
260990009	4	-4.81	0.52	-0.59	0.11	-0.57
261630019	4	-7.67	0.74	-0.85	0.10	-0.74
261630001	5	-3.59	2.10	-0.87	0.19	-0.51
261610008	5	-7.50	1.67	-1.15	0.19	-0.61
260910007	5	-3.56	0.69	-0.89	0.12	-0.69
261250001	5	-6.05	2.64	-1.11	0.24	-0.51
261470005	5	-4.56	0.36	-0.94	0.08	-0.83
260991003	5	-6.02	2.23	-1.13	0.22	-0.56
260990009	5	-4.45	0.51	-0.58	0.10	-0.61
261630019	5	-6.88	0.94	-0.94	0.11	-0.76
261630001	6	-8.15	1.76	-1.40	0.19	-0.69
261610008	6	-7.43	1.13	-1.34	0.16	-0.73
260910007	6	-3.13	0.66	-1.03	0.12	-0.73
261250001	6	-9.67	1.92	-1.48	0.20	-0.69
261470005	6	-3.78	0.33	-0.96	0.08	-0.85
260991003	6	-8.44	1.52	-1.37	0.17	-0.72
260990009	6	-3.77	0.44	-0.65	0.09	-0.68
261630019	6	-6.30	0.71	-1.10	0.09	-0.85
261630001	7	-9.67	1.75	-1.46	0.22	-0.65
261610008	7	-7.74	0.88	-1.38	0.14	-0.78
260910007	7	-3.21	0.73	-1.08	0.12	-0.76
261250001	7	-12.58	1.54	-1.70	0.19	-0.75
261470005	7	-3.32	0.47	-1.03	0.10	-0.81
260991003	7	-8.88	1.11	-1.28	0.15	-0.73
260990009	7	-3.70	0.42	-0.70	0.09	-0.72
261630019	7	-5.97	0.91	-1.09	0.12	-0.76
261630001	8	-9.47	1.18	-1.51	0.16	-0.76
261610008	8	-7.15	0.78	-1.26	0.12	-0.81
260910007	8	-3.80	0.97	-1.02	0.12	-0.73
261250001	8	-11.58	1.04	-1.65	0.15	-0.82
261470005	8	-2.39	1.76	-1.48	0.27	-0.58
260991003	8	-9.56	0.85	-1.46	0.14	-0.80
260990009	8	-4.29	0.57	-0.77	0.09	-0.74
261630019	8	-6.74	1.38	-1.26	0.19	-0.65
261630001	9	-9.01	0.99	-1.34	0.12	-0.82
261610008	9	-7.75	1.15	-1.10	0.13	-0.74
260910007	9	-4.82	1.39	-0.90	0.14	-0.64

261250001	9	-11.02	1.23	-1.31	0.16	-0.73
261470005	9	0.93	2.42	-1.72	0.27	-0.64
260991003	9	-9.80	0.88	-1.23	0.13	-0.77
260990009	9	-6.18	1.14	-0.58	0.13	-0.49
261630019	9	-8.09	1.51	-1.31	0.19	-0.66
261630001	10	-10.21	1.14	-0.95	0.11	-0.75
261610008	10	-12.27	1.98	-0.46	0.17	-0.33
260910007	10	-7.15	1.76	-0.64	0.15	-0.47
261250001	10	-13.59	1.47	-0.87	0.16	-0.58
261470005	10	-0.34	2.94	-1.34	0.29	-0.51
260991003	10	-11.90	1.35	-0.97	0.16	-0.62
260990009	10	-4.48	2.53	-0.91	0.23	-0.45
261630019	10	-11.28	1.78	-0.87	0.19	-0.51
261630001	11	-13.46	1.65	-0.58	0.14	-0.47
261610008	11	-20.45	5.29	-0.11	0.42	-0.03
260910007	11	-7.49	2.08	-0.59	0.16	-0.43
261250001	11	-17.11	2.19	-0.57	0.21	-0.34
261470005	11	0.59	1.84	-1.17	0.17	-0.68
260991003	11	-14.27	1.66	-0.64	0.17	-0.45
260990009	11	-2.38	1.64	-0.93	0.13	-0.67
261630019	11	-15.53	2.41	-0.44	0.23	-0.24
261630001	12	-18.32	2.23	-0.21	0.18	-0.15
261610008	12	-15.53	4.87	-0.63	0.35	-0.23
260910007	12	-9.07	2.78	-0.42	0.20	-0.26
261250001	12	-19.83	3.07	-0.26	0.26	-0.13
261470005	12	-0.32	1.33	-0.92	0.11	-0.73
260991003	12	-14.78	1.77	-0.49	0.16	-0.37
260990009	12	-3.13	3.26	-0.93	0.25	-0.43
261630019	12	-16.04	2.86	-0.40	0.23	-0.22
261630001	13	-21.72	3.23	0.03	0.26	0.02
261610008	13	-16.11	3.86	-0.35	0.26	-0.17
260910007	13	-8.87	3.02	-0.37	0.21	-0.22
261250001	13	-23.00	3.61	0.17	0.30	0.07
261470005	13	1.36	1.08	-1.02	0.08	-0.84
260991003	13	-14.64	1.69	-0.40	0.15	-0.33
260990009	13	-2.94	3.24	-0.92	0.24	-0.44
261630019	13	-15.53	2.75	-0.28	0.21	-0.17
261630001	14	-21.40	3.55	0.09	0.29	0.04
261610008	14	-20.46	4.05	0.10	0.29	0.04
260910007	14	-4.00	2.39	-0.64	0.17	-0.44

261250001	14	-19.95	3.23	0.02	0.26	0.01
261470005	14	1.30	0.85	-1.02	0.07	-0.89
260991003	14	-13.09	1.48	-0.49	0.13	-0.44
260990009	14	-3.22	2.16	-0.85	0.17	-0.55
261630019	14	-14.62	2.44	-0.22	0.19	-0.15
261630001	15	-17.66	2.56	-0.02	0.22	-0.01
261610008	15	-21.64	4.59	0.27	0.35	0.10
260910007	15	-1.39	1.82	-0.80	0.13	-0.63
261250001	15	-14.15	2.47	-0.43	0.18	-0.29
261470005	15	0.78	0.88	-1.05	0.07	-0.88
260991003	15	-11.48	1.31	-0.60	0.11	-0.59
260990009	15	-7.99	2.43	-0.50	0.20	-0.31
261630019	15	-13.49	2.20	-0.23	0.18	-0.16
261630001	16	-12.46	1.41	-0.45	0.13	-0.42
261610008	16	-18.58	3.79	0.22	0.33	0.09
260910007	16	-1.85	1.69	-0.78	0.12	-0.64
261250001	16	-11.45	1.71	-0.63	0.13	-0.53
261470005	16	0.24	1.05	-1.14	0.10	-0.83
260991003	16	-10.21	1.24	-0.69	0.10	-0.67
260990009	16	-10.01	2.16	-0.29	0.19	-0.19
261630019	16	-11.53	2.06	-0.38	0.17	-0.28
261630001	17	-11.13	0.87	-0.58	0.09	-0.65
261610008	17	-12.05	1.55	-0.30	0.15	-0.25
260910007	17	-2.89	1.89	-0.77	0.14	-0.57
261250001	17	-11.35	0.95	-0.59	0.08	-0.68
261470005	17	-0.97	1.09	-1.11	0.12	-0.76
260991003	17	-10.80	1.10	-0.57	0.10	-0.58
260990009	17	-8.58	1.38	-0.32	0.15	-0.27
261630019	17	-10.43	1.64	-0.48	0.14	-0.40
261630001	18	-11.03	0.76	-0.58	0.08	-0.68
261610008	18	-10.74	0.93	-0.47	0.09	-0.54
260910007	18	-5.13	2.88	-0.65	0.24	-0.33
261250001	18	-12.43	0.89	-0.62	0.08	-0.68
261470005	18	-1.83	0.98	-1.03	0.14	-0.69
260991003	18	-11.75	1.00	-0.55	0.11	-0.55
260990009	18	-8.16	1.05	-0.20	0.14	-0.19
261630019	18	-9.47	1.15	-0.52	0.12	-0.48
261630001	19	-10.74	0.83	-0.62	0.09	-0.68
261610008	19	-9.94	0.81	-0.52	0.08	-0.64
260910007	19	-10.19	2.64	-0.08	0.24	-0.04

261250001	19	-12.71	1.11	-0.65	0.11	-0.61
261470005	19	-2.19	0.76	-0.87	0.11	-0.71
260991003	19	-11.67	1.10	-0.59	0.12	-0.55
260990009	19	-7.00	0.88	-0.26	0.14	-0.24
261630019	19	-7.94	0.95	-0.64	0.11	-0.60
261630001	20	-10.22	0.89	-0.69	0.09	-0.69
261610008	20	-9.22	0.77	-0.61	0.08	-0.69
260910007	20	-7.29	1.38	-0.27	0.13	-0.25
261250001	20	-11.16	1.13	-0.62	0.12	-0.56
261470005	20	-2.03	0.53	-0.80	0.08	-0.80
260991003	20	-10.41	1.07	-0.58	0.12	-0.52
260990009	20	-5.69	0.76	-0.36	0.12	-0.35
261630019	20	-6.87	0.91	-0.70	0.10	-0.65
261630001	21	-9.94	0.84	-0.81	0.09	-0.74
261610008	21	-8.49	0.74	-0.61	0.08	-0.69
260910007	21	-4.45	0.87	-0.62	0.09	-0.67
261250001	21	-9.45	0.98	-0.54	0.11	-0.53
261470005	21	-2.04	0.60	-0.80	0.09	-0.76
260991003	21	-9.03	0.97	-0.53	0.13	-0.48
260990009	21	-4.91	0.68	-0.38	0.11	-0.39
261630019	21	-5.84	0.91	-0.80	0.10	-0.72
261630001	22	-9.00	0.85	-0.93	0.10	-0.76
261610008	22	-7.89	0.76	-0.67	0.09	-0.68
260910007	22	-3.83	0.80	-0.75	0.08	-0.76
261250001	22	-8.38	0.87	-0.59	0.11	-0.55
261470005	22	-2.26	0.73	-0.78	0.11	-0.68
260991003	22	-7.91	0.85	-0.53	0.13	-0.47
260990009	22	-4.37	0.65	-0.42	0.11	-0.44
261630019	22	-5.02	0.93	-0.92	0.10	-0.75
261630001	23	-7.59	0.72	-0.91	0.09	-0.78
261610008	23	-7.12	0.77	-0.75	0.10	-0.69
260910007	23	-3.95	0.80	-0.78	0.08	-0.77
261250001	23	-7.67	0.86	-0.72	0.13	-0.59
261470005	23	-2.32	0.66	-0.76	0.10	-0.70
260991003	23	-7.27	0.77	-0.70	0.13	-0.56
260990009	23	-3.79	0.61	-0.54	0.11	-0.55
261630019	23	-4.48	0.91	-1.00	0.11	-0.76

Table S15. Summary of linear regression data for second order NO_x sensitivities at Detroit sites in the 75% NO_x cut model run ($S^2_{\text{NO}_x} = \text{slope} \times S_{\text{NO}_x} + \text{intercept}$).

Site	Hour	Intercept		Slope		Correlation Coefficient
		Value	Standard Error	Value	Standard Error	
261630001	0	-1.94	0.32	-0.73	0.05	-0.86
261610008	0	-1.89	0.42	-0.72	0.07	-0.78
260910007	0	-0.60	0.49	-0.73	0.07	-0.82
261250001	0	-1.92	0.37	-0.78	0.07	-0.83
261470005	0	-0.30	0.28	-0.69	0.05	-0.87
260991003	0	-1.90	0.31	-0.79	0.06	-0.86
260990009	0	-0.67	0.29	-0.68	0.06	-0.84
261630019	0	-0.57	0.31	-0.82	0.05	-0.92
261630001	1	-1.93	0.30	-0.73	0.05	-0.87
261610008	1	-1.65	0.39	-0.75	0.07	-0.81
260910007	1	-0.46	0.47	-0.76	0.07	-0.83
261250001	1	-1.81	0.31	-0.76	0.06	-0.85
261470005	1	-0.33	0.26	-0.70	0.05	-0.88
260991003	1	-1.85	0.27	-0.75	0.05	-0.88
260990009	1	-0.52	0.27	-0.73	0.05	-0.88
261630019	1	-0.60	0.26	-0.81	0.04	-0.93
261630001	2	-2.33	0.27	-0.74	0.05	-0.87
261610008	2	-1.76	0.35	-0.77	0.07	-0.83
260910007	2	-0.38	0.46	-0.80	0.07	-0.83
261250001	2	-1.97	0.25	-0.79	0.05	-0.89
261470005	2	-0.31	0.24	-0.75	0.05	-0.91
260991003	2	-2.19	0.23	-0.73	0.05	-0.88
260990009	2	-0.64	0.26	-0.72	0.05	-0.88
261630019	2	-0.87	0.23	-0.80	0.04	-0.93
261630001	3	-3.54	0.28	-0.71	0.06	-0.85
261610008	3	-2.61	0.30	-0.74	0.07	-0.81
260910007	3	-0.47	0.45	-0.80	0.07	-0.81
261250001	3	-3.14	0.23	-0.76	0.05	-0.87
261470005	3	-0.52	0.19	-0.80	0.04	-0.93
260991003	3	-3.22	0.23	-0.69	0.05	-0.86
260990009	3	-0.97	0.24	-0.71	0.06	-0.86
261630019	3	-1.82	0.24	-0.76	0.05	-0.90
261630001	4	-4.72	0.40	-0.65	0.06	-0.80
261610008	4	-3.86	0.33	-0.64	0.07	-0.76
260910007	4	-0.60	0.42	-0.80	0.08	-0.80

261250001	4	-4.51	0.35	-0.62	0.06	-0.79
261470005	4	-1.13	0.16	-0.78	0.04	-0.93
260991003	4	-4.21	0.37	-0.58	0.07	-0.76
260990009	4	-1.67	0.24	-0.66	0.07	-0.78
261630019	4	-3.18	0.27	-0.64	0.06	-0.82
261630001	5	-4.57	0.70	-0.85	0.09	-0.77
261610008	5	-3.92	0.39	-0.69	0.07	-0.78
260910007	5	-0.72	0.38	-0.79	0.08	-0.80
261250001	5	-4.78	0.49	-0.76	0.07	-0.83
261470005	5	-1.58	0.17	-0.76	0.05	-0.90
260991003	5	-4.19	0.49	-0.69	0.07	-0.78
260990009	5	-2.04	0.24	-0.55	0.07	-0.70
261630019	5	-3.43	0.32	-0.62	0.06	-0.80
261630001	6	-4.85	0.61	-1.05	0.09	-0.84
261610008	6	-3.50	0.32	-0.85	0.06	-0.86
260910007	6	-0.73	0.34	-0.82	0.07	-0.84
261250001	6	-5.20	0.49	-0.98	0.07	-0.87
261470005	6	-1.46	0.17	-0.77	0.05	-0.90
260991003	6	-4.37	0.41	-0.88	0.07	-0.86
260990009	6	-1.77	0.23	-0.58	0.07	-0.75
261630019	6	-3.07	0.33	-0.72	0.06	-0.85
261630001	7	-4.80	0.57	-1.05	0.10	-0.81
261610008	7	-3.52	0.31	-0.92	0.06	-0.88
260910007	7	-0.88	0.34	-0.80	0.06	-0.86
261250001	7	-5.80	0.41	-1.16	0.08	-0.88
261470005	7	-1.16	0.34	-0.88	0.08	-0.83
260991003	7	-4.40	0.36	-0.94	0.08	-0.82
260990009	7	-1.90	0.40	-0.61	0.10	-0.62
261630019	7	-3.09	0.46	-0.81	0.08	-0.78
261630001	8	-5.09	0.52	-0.93	0.09	-0.81
261610008	8	-4.26	0.56	-0.80	0.09	-0.75
260910007	8	-1.50	0.56	-0.72	0.08	-0.76
261250001	8	-6.23	0.74	-1.03	0.13	-0.71
261470005	8	0.23	0.79	-1.11	0.12	-0.76
260991003	8	-5.01	0.50	-0.98	0.10	-0.78
260990009	8	-2.85	1.05	-0.55	0.19	-0.36
261630019	8	-4.21	0.64	-0.82	0.11	-0.69
261630001	9	-5.92	0.78	-0.70	0.10	-0.68
261610008	9	-6.36	1.20	-0.54	0.14	-0.43
260910007	9	-2.60	0.88	-0.59	0.10	-0.59

261250001	9	-6.87	1.12	-0.80	0.14	-0.59
261470005	9	1.33	0.87	-1.08	0.11	-0.78
260991003	9	-5.48	0.85	-0.77	0.12	-0.65
260990009	9	-1.92	1.70	-0.75	0.22	-0.41
261630019	9	-5.67	1.01	-0.73	0.14	-0.57
261630001	10	-8.56	1.27	-0.32	0.13	-0.30
261610008	10	-8.51	2.84	-0.41	0.28	-0.19
260910007	10	-3.12	1.22	-0.48	0.13	-0.44
261250001	10	-6.15	1.33	-0.71	0.14	-0.56
261470005	10	1.69	0.85	-1.00	0.10	-0.79
260991003	10	-4.91	1.02	-0.69	0.11	-0.63
260990009	10	0.74	1.18	-0.89	0.12	-0.68
261630019	10	-4.51	1.50	-0.82	0.16	-0.56
261630001	11	-9.15	1.90	-0.25	0.18	-0.18
261610008	11	-4.38	3.07	-0.75	0.26	-0.34
260910007	11	0.98	1.19	-0.81	0.11	-0.69
261250001	11	-3.21	1.50	-0.81	0.13	-0.62
261470005	11	1.14	0.55	-0.79	0.06	-0.86
260991003	11	-5.49	1.32	-0.50	0.13	-0.45
260990009	11	0.25	0.81	-0.70	0.08	-0.75
261630019	11	-2.19	1.34	-0.83	0.12	-0.66
261630001	12	-5.73	1.73	-0.47	0.15	-0.39
261610008	12	0.40	2.47	-0.96	0.20	-0.53
260910007	12	3.48	1.03	-0.99	0.09	-0.81
261250001	12	-3.03	1.79	-0.73	0.15	-0.53
261470005	12	0.95	0.41	-0.69	0.04	-0.90
260991003	12	-7.54	1.79	-0.24	0.16	-0.18
260990009	12	2.72	1.01	-0.95	0.09	-0.80
261630019	12	-1.08	1.18	-0.76	0.10	-0.71
261630001	13	-4.07	1.41	-0.55	0.12	-0.52
261610008	13	2.25	1.55	-0.97	0.12	-0.72
260910007	13	3.31	0.82	-0.93	0.07	-0.86
261250001	13	-3.73	2.00	-0.67	0.17	-0.45
261470005	13	1.10	0.34	-0.68	0.03	-0.93
260991003	13	-5.81	1.54	-0.39	0.14	-0.33
260990009	13	2.62	1.08	-0.93	0.10	-0.78
261630019	13	-0.74	1.05	-0.72	0.09	-0.73
261630001	14	-2.79	1.94	-0.69	0.17	-0.47
261610008	14	2.12	1.17	-0.95	0.09	-0.79
260910007	14	3.04	0.63	-0.88	0.06	-0.90

261250001	14	-5.54	1.53	-0.48	0.14	-0.41
261470005	14	1.01	0.33	-0.68	0.03	-0.93
260991003	14	-7.04	1.30	-0.25	0.13	-0.24
260990009	14	1.28	1.06	-0.82	0.10	-0.74
261630019	14	-1.55	1.13	-0.66	0.10	-0.65
261630001	15	-5.41	2.29	-0.49	0.21	-0.29
261610008	15	1.67	1.17	-0.97	0.10	-0.78
260910007	15	2.67	0.68	-0.85	0.06	-0.87
261250001	15	-6.49	1.02	-0.34	0.10	-0.41
261470005	15	0.80	0.35	-0.69	0.04	-0.92
260991003	15	-7.13	1.06	-0.21	0.11	-0.25
260990009	15	0.19	1.61	-0.79	0.15	-0.56
261630019	15	-3.35	1.21	-0.55	0.11	-0.53
261630001	16	-6.38	1.45	-0.36	0.15	-0.30
261610008	16	0.58	1.50	-0.99	0.14	-0.67
260910007	16	2.13	0.68	-0.81	0.06	-0.86
261250001	16	-6.38	0.87	-0.31	0.09	-0.41
261470005	16	0.62	0.37	-0.73	0.04	-0.92
260991003	16	-6.58	0.98	-0.26	0.10	-0.31
260990009	16	-0.71	1.52	-0.76	0.16	-0.53
261630019	16	-4.51	1.03	-0.44	0.10	-0.49
261630001	17	-5.63	0.75	-0.46	0.09	-0.54
261610008	17	-4.45	1.33	-0.51	0.15	-0.39
260910007	17	1.25	0.80	-0.78	0.08	-0.80
261250001	17	-5.93	0.65	-0.35	0.08	-0.50
261470005	17	0.31	0.37	-0.76	0.05	-0.90
260991003	17	-5.21	0.72	-0.48	0.09	-0.56
260990009	17	-1.13	0.90	-0.73	0.11	-0.64
261630019	17	-5.92	1.19	-0.25	0.13	-0.25
261630001	18	-5.26	0.52	-0.50	0.08	-0.64
261610008	18	-5.79	0.79	-0.26	0.11	-0.29
260910007	18	0.86	1.02	-0.81	0.10	-0.71
261250001	18	-5.79	0.53	-0.51	0.08	-0.62
261470005	18	0.17	0.35	-0.79	0.05	-0.89
260991003	18	-5.07	0.56	-0.64	0.09	-0.66
260990009	18	-1.92	0.75	-0.65	0.12	-0.58
261630019	18	-3.62	0.84	-0.52	0.11	-0.53
261630001	19	-4.73	0.43	-0.53	0.07	-0.71
261610008	19	-4.74	0.53	-0.35	0.08	-0.49
260910007	19	0.30	1.34	-0.79	0.15	-0.57

261250001	19	-5.58	0.49	-0.64	0.09	-0.68
261470005	19	-0.10	0.34	-0.75	0.06	-0.86
260991003	19	-4.97	0.52	-0.68	0.10	-0.67
260990009	19	-1.71	0.57	-0.65	0.10	-0.62
261630019	19	-2.08	0.56	-0.71	0.08	-0.76
261630001	20	-4.21	0.42	-0.62	0.07	-0.77
261610008	20	-3.76	0.42	-0.51	0.07	-0.70
260910007	20	-1.81	1.16	-0.51	0.14	-0.42
261250001	20	-4.81	0.50	-0.66	0.09	-0.68
261470005	20	-0.29	0.27	-0.66	0.05	-0.88
260991003	20	-4.36	0.48	-0.69	0.09	-0.69
260990009	20	-1.52	0.48	-0.62	0.10	-0.64
261630019	20	-1.70	0.51	-0.73	0.07	-0.80
261630001	21	-3.60	0.42	-0.72	0.06	-0.83
261610008	21	-3.29	0.43	-0.58	0.07	-0.72
260910007	21	-1.52	0.70	-0.53	0.09	-0.61
261250001	21	-3.95	0.49	-0.66	0.09	-0.68
261470005	21	-0.24	0.26	-0.67	0.04	-0.89
260991003	21	-3.63	0.44	-0.69	0.09	-0.71
260990009	21	-1.38	0.41	-0.58	0.08	-0.66
261630019	21	-1.39	0.48	-0.74	0.06	-0.83
261630001	22	-2.72	0.41	-0.79	0.06	-0.86
261610008	22	-2.75	0.45	-0.65	0.08	-0.75
260910007	22	-0.80	0.52	-0.66	0.07	-0.78
261250001	22	-3.10	0.47	-0.69	0.09	-0.72
261470005	22	-0.17	0.31	-0.71	0.06	-0.86
260991003	22	-2.92	0.40	-0.70	0.08	-0.74
260990009	22	-1.08	0.35	-0.61	0.07	-0.73
261630019	22	-0.98	0.44	-0.78	0.06	-0.87
261630001	23	-2.15	0.37	-0.76	0.06	-0.87
261610008	23	-2.24	0.45	-0.70	0.07	-0.77
260910007	23	-0.76	0.50	-0.69	0.07	-0.81
261250001	23	-2.32	0.44	-0.79	0.08	-0.79
261470005	23	-0.28	0.31	-0.69	0.06	-0.85
260991003	23	-2.34	0.36	-0.76	0.07	-0.80
260990009	23	-0.86	0.31	-0.63	0.07	-0.78
261630019	23	-0.71	0.39	-0.82	0.05	-0.90

Table S16. Summary of linear regression data for first order VOC sensitivities at Detroit sites in the base cut model run ($S_{\text{VOC}} = \text{slope} \times \text{O}_3 + \text{intercept}$).

Site	Hour	Intercept		Slope		Correlation Coefficient
		Value	Standard Error	Value	Standard Error	
261630001	0	-0.59	0.62	0.07	0.02	0.45
261610008	0	-0.16	0.46	0.05	0.01	0.42
260910007	0	-1.00	0.55	0.07	0.01	0.52
261250001	0	-1.20	0.84	0.09	0.03	0.41
261470005	0	-0.75	0.41	0.05	0.01	0.46
260991003	0	-0.90	0.82	0.08	0.02	0.38
260990009	0	-0.74	0.61	0.05	0.02	0.36
261630019	0	-2.27	0.92	0.11	0.02	0.51
261630001	1	-0.31	0.49	0.05	0.02	0.42
261610008	1	-0.26	0.34	0.05	0.01	0.50
260910007	1	-0.89	0.47	0.06	0.01	0.54
261250001	1	-0.41	0.56	0.05	0.02	0.39
261470005	1	-0.74	0.40	0.05	0.01	0.47
260991003	1	-0.92	0.56	0.07	0.02	0.48
260990009	1	-1.78	0.81	0.09	0.02	0.44
261630019	1	-1.79	0.78	0.09	0.02	0.49
261630001	2	-0.39	0.41	0.06	0.01	0.49
261610008	2	-0.47	0.33	0.05	0.01	0.55
260910007	2	-0.83	0.43	0.06	0.01	0.54
261250001	2	-0.53	0.42	0.06	0.01	0.48
261470005	2	-1.17	0.55	0.06	0.02	0.46
260991003	2	-0.53	0.35	0.06	0.01	0.54
260990009	2	-1.24	0.56	0.07	0.02	0.48
261630019	2	-1.18	0.65	0.07	0.02	0.46
261630001	3	-0.24	0.32	0.06	0.01	0.53
261610008	3	-0.37	0.29	0.06	0.01	0.58
260910007	3	-0.56	0.39	0.05	0.01	0.50
261250001	3	-0.43	0.29	0.06	0.01	0.57
261470005	3	-1.34	0.45	0.07	0.01	0.55
260991003	3	-0.27	0.24	0.05	0.01	0.59
260990009	3	-0.56	0.32	0.05	0.01	0.51
261630019	3	-0.45	0.49	0.05	0.01	0.41
261630001	4	-0.13	0.22	0.07	0.01	0.59
261610008	4	-0.04	0.23	0.06	0.01	0.54
260910007	4	-0.42	0.38	0.04	0.01	0.45

261250001	4	-0.06	0.18	0.06	0.01	0.60
261470005	4	-0.75	0.29	0.06	0.01	0.59
260991003	4	-0.02	0.15	0.05	0.01	0.62
260990009	4	-0.29	0.26	0.04	0.01	0.50
261630019	4	-0.24	0.30	0.05	0.01	0.50
261630001	5	-0.25	0.17	0.08	0.01	0.70
261610008	5	-0.07	0.18	0.06	0.01	0.63
260910007	5	-0.46	0.39	0.05	0.01	0.46
261250001	5	-0.07	0.13	0.06	0.01	0.70
261470005	5	-0.47	0.25	0.05	0.01	0.57
260991003	5	-0.05	0.11	0.05	0.01	0.72
260990009	5	-0.15	0.23	0.04	0.01	0.50
261630019	5	-0.26	0.26	0.06	0.01	0.56
261630001	6	-0.39	0.20	0.09	0.01	0.73
261610008	6	-0.02	0.19	0.06	0.01	0.66
260910007	6	-0.99	0.45	0.07	0.01	0.56
261250001	6	-0.13	0.17	0.07	0.01	0.72
261470005	6	-0.64	0.30	0.06	0.01	0.58
260991003	6	-0.01	0.17	0.06	0.01	0.65
260990009	6	-0.01	0.31	0.04	0.01	0.41
261630019	6	-0.18	0.32	0.06	0.01	0.51
261630001	7	-0.26	0.35	0.09	0.01	0.65
261610008	7	-0.24	0.34	0.08	0.01	0.65
260910007	7	-1.29	0.54	0.09	0.01	0.61
261250001	7	-0.61	0.33	0.10	0.01	0.74
261470005	7	-1.40	0.45	0.08	0.01	0.63
260991003	7	-0.52	0.38	0.09	0.01	0.65
260990009	7	-0.67	0.51	0.07	0.01	0.51
261630019	7	0.00	0.53	0.06	0.02	0.43
261630001	8	-0.37	0.49	0.10	0.01	0.68
261610008	8	-0.07	0.60	0.08	0.02	0.56
260910007	8	-0.47	0.73	0.07	0.02	0.48
261250001	8	-1.15	0.48	0.12	0.01	0.78
261470005	8	-1.89	0.59	0.09	0.01	0.64
260991003	8	-1.55	0.50	0.13	0.01	0.77
260990009	8	-1.27	0.72	0.09	0.02	0.55
261630019	8	-0.76	0.84	0.10	0.02	0.49
261630001	9	0.15	0.71	0.09	0.02	0.59
261610008	9	0.90	0.83	0.06	0.02	0.42
260910007	9	0.64	0.79	0.05	0.02	0.34

261250001	9	0.00	0.70	0.10	0.02	0.63
261470005	9	-1.61	0.77	0.08	0.02	0.52
260991003	9	-1.34	0.61	0.12	0.01	0.75
260990009	9	-1.48	0.94	0.09	0.02	0.51
261630019	9	-1.77	1.17	0.12	0.02	0.54
261630001	10	1.07	1.15	0.08	0.02	0.41
261610008	10	1.57	1.41	0.06	0.03	0.27
260910007	10	0.97	1.17	0.04	0.02	0.23
261250001	10	0.61	1.19	0.09	0.02	0.47
261470005	10	-1.77	1.06	0.08	0.02	0.44
260991003	10	-0.64	1.04	0.11	0.02	0.57
260990009	10	-1.84	1.26	0.09	0.02	0.45
261630019	10	-2.31	1.72	0.14	0.03	0.49
261630001	11	1.39	1.67	0.07	0.03	0.31
261610008	11	1.06	2.31	0.08	0.04	0.24
260910007	11	0.19	1.71	0.05	0.03	0.23
261250001	11	0.10	1.90	0.11	0.03	0.39
261470005	11	-2.19	1.09	0.08	0.02	0.46
260991003	11	-0.62	1.68	0.11	0.03	0.44
260990009	11	-2.74	1.56	0.10	0.03	0.44
261630019	11	-3.15	2.39	0.16	0.04	0.44
261630001	12	1.41	2.18	0.07	0.04	0.25
261610008	12	-0.44	2.85	0.10	0.05	0.26
260910007	12	-0.16	1.88	0.05	0.03	0.21
261250001	12	0.17	2.52	0.11	0.04	0.31
261470005	12	-2.47	1.07	0.08	0.02	0.49
260991003	12	-1.13	2.08	0.12	0.04	0.41
260990009	12	-4.06	1.84	0.13	0.03	0.47
261630019	12	-4.89	2.90	0.18	0.05	0.45
261630001	13	0.42	2.46	0.09	0.04	0.27
261610008	13	-1.27	3.08	0.10	0.05	0.26
260910007	13	-0.58	1.84	0.05	0.03	0.21
261250001	13	1.50	2.69	0.08	0.04	0.23
261470005	13	-2.68	0.99	0.08	0.02	0.52
260991003	13	-1.06	2.10	0.12	0.04	0.39
260990009	13	-4.88	1.82	0.14	0.03	0.52
261630019	13	-4.56	2.83	0.17	0.04	0.43
261630001	14	0.77	2.61	0.08	0.04	0.22
261610008	14	-2.08	3.10	0.11	0.05	0.28
260910007	14	-2.54	1.75	0.08	0.03	0.34

261250001	14	2.25	2.33	0.06	0.04	0.19
261470005	14	-2.70	0.84	0.08	0.01	0.58
260991003	14	-0.65	1.97	0.10	0.03	0.37
260990009	14	-5.66	1.78	0.15	0.03	0.56
261630019	14	-3.03	2.57	0.13	0.04	0.39
261630001	15	0.86	2.23	0.07	0.04	0.22
261610008	15	-2.38	3.04	0.12	0.05	0.29
260910007	15	-3.61	1.60	0.10	0.03	0.43
261250001	15	1.92	1.65	0.06	0.03	0.24
261470005	15	-2.94	0.82	0.09	0.01	0.62
260991003	15	-0.08	1.60	0.09	0.03	0.37
260990009	15	-4.82	1.80	0.14	0.03	0.52
261630019	15	-1.07	2.25	0.10	0.04	0.33
261630001	16	0.79	1.41	0.06	0.03	0.29
261610008	16	-2.83	2.67	0.13	0.05	0.32
260910007	16	-4.26	1.38	0.11	0.02	0.52
261250001	16	1.12	1.25	0.06	0.02	0.31
261470005	16	-3.80	0.98	0.12	0.02	0.64
260991003	16	0.43	1.21	0.07	0.02	0.37
260990009	16	-2.20	1.55	0.10	0.03	0.42
261630019	16	0.54	1.83	0.07	0.03	0.26
261630001	17	0.59	0.81	0.06	0.02	0.42
261610008	17	-0.59	1.74	0.09	0.04	0.30
260910007	17	-4.42	1.49	0.13	0.03	0.52
261250001	17	0.60	0.86	0.07	0.02	0.41
261470005	17	-3.35	0.94	0.11	0.02	0.60
260991003	17	-0.45	0.88	0.09	0.02	0.51
260990009	17	-0.13	1.19	0.06	0.02	0.30
261630019	17	1.10	1.45	0.05	0.03	0.23
261630001	18	0.86	0.51	0.05	0.01	0.43
261610008	18	1.31	1.12	0.04	0.03	0.19
260910007	18	-3.83	1.94	0.13	0.04	0.40
261250001	18	0.53	0.68	0.07	0.02	0.44
261470005	18	-1.59	0.72	0.07	0.02	0.50
260991003	18	-0.54	0.75	0.10	0.02	0.53
260990009	18	0.20	1.02	0.05	0.02	0.26
261630019	18	0.96	1.11	0.04	0.02	0.23
261630001	19	0.71	0.38	0.04	0.01	0.47
261610008	19	1.29	0.79	0.03	0.02	0.20
260910007	19	-2.83	1.92	0.11	0.04	0.35

261250001	19	1.00	0.56	0.05	0.02	0.33
261470005	19	-0.98	0.53	0.05	0.01	0.46
260991003	19	0.46	0.57	0.06	0.02	0.39
260990009	19	-0.03	0.86	0.05	0.02	0.29
261630019	19	0.29	0.87	0.05	0.02	0.31
261630001	20	0.46	0.36	0.05	0.01	0.48
261610008	20	0.89	0.61	0.04	0.02	0.26
260910007	20	-1.21	1.36	0.07	0.03	0.30
261250001	20	0.96	0.42	0.03	0.01	0.28
261470005	20	-0.81	0.43	0.04	0.01	0.48
260991003	20	0.50	0.45	0.05	0.02	0.35
260990009	20	0.05	0.65	0.04	0.02	0.27
261630019	20	-0.33	0.86	0.06	0.02	0.35
261630001	21	0.05	0.60	0.07	0.02	0.43
261610008	21	0.69	0.43	0.03	0.01	0.33
260910007	21	-1.05	0.92	0.07	0.02	0.38
261250001	21	0.51	0.36	0.04	0.01	0.36
261470005	21	-0.76	0.52	0.04	0.01	0.40
260991003	21	0.29	0.49	0.05	0.02	0.34
260990009	21	0.16	0.49	0.03	0.01	0.25
261630019	21	-1.51	1.02	0.09	0.03	0.43
261630001	22	-1.49	1.00	0.12	0.03	0.48
261610008	22	0.12	0.53	0.05	0.02	0.39
260910007	22	-1.41	0.75	0.07	0.02	0.48
261250001	22	0.44	0.39	0.03	0.01	0.33
261470005	22	-0.92	0.62	0.05	0.02	0.38
260991003	22	0.54	0.54	0.03	0.02	0.23
260990009	22	0.00	0.41	0.03	0.01	0.29
261630019	22	-2.42	1.21	0.12	0.03	0.46
261630001	23	-1.54	0.89	0.11	0.03	0.49
261610008	23	-0.52	0.67	0.07	0.02	0.42
260910007	23	-1.25	0.64	0.07	0.02	0.51
261250001	23	-0.08	0.77	0.06	0.02	0.29
261470005	23	-0.86	0.51	0.05	0.01	0.42
260991003	23	0.23	0.69	0.04	0.02	0.24
260990009	23	-0.24	0.36	0.03	0.01	0.38
261630019	23	-2.86	1.23	0.13	0.03	0.48

Table S17. Summary of linear regression data for first order VOC sensitivities at Detroit sites in the 50% NOx cut model run ($S_{VOC} = \text{slope} \times O_3 + \text{intercept}$).

Site	Hour	Intercept		Slope		Correlation Coefficient
		Value	Standard Error	Value	Standard Error	
261630001	0	0.05	0.21	0.01	0.01	0.17
261610008	0	0.28	0.17	0.00	0.01	-0.05
260910007	0	0.13	0.23	0.00	0.01	0.03
261250001	0	0.12	0.30	0.01	0.01	0.10
261470005	0	0.12	0.17	0.00	0.00	-0.05
260991003	0	0.03	0.28	0.01	0.01	0.14
260990009	0	0.00	0.21	0.00	0.01	0.06
261630019	0	-0.57	0.34	0.02	0.01	0.34
261630001	1	0.19	0.16	0.00	0.00	0.02
261610008	1	0.23	0.12	0.00	0.00	-0.11
260910007	1	0.12	0.19	0.00	0.00	0.01
261250001	1	0.39	0.21	0.00	0.01	-0.09
261470005	1	0.11	0.15	0.00	0.00	-0.03
260991003	1	0.04	0.21	0.01	0.01	0.13
260990009	1	-0.34	0.28	0.01	0.01	0.23
261630019	1	-0.38	0.28	0.02	0.01	0.29
261630001	2	0.19	0.15	0.00	0.00	0.01
261610008	2	0.19	0.11	0.00	0.00	-0.09
260910007	2	0.12	0.18	0.00	0.00	-0.01
261250001	2	0.32	0.15	0.00	0.00	-0.10
261470005	2	-0.10	0.20	0.01	0.01	0.13
260991003	2	0.20	0.13	0.00	0.00	0.01
260990009	2	-0.19	0.21	0.01	0.01	0.19
261630019	2	-0.12	0.22	0.01	0.01	0.19
261630001	3	0.24	0.12	0.00	0.00	0.02
261610008	3	0.19	0.10	0.00	0.00	-0.04
260910007	3	0.15	0.17	0.00	0.00	-0.05
261250001	3	0.23	0.11	0.00	0.00	0.00
261470005	3	-0.25	0.18	0.01	0.01	0.25
260991003	3	0.19	0.09	0.00	0.00	0.05
260990009	3	0.04	0.12	0.00	0.00	0.06
261630019	3	0.12	0.17	0.00	0.01	0.05
261630001	4	0.26	0.10	0.01	0.01	0.16
261610008	4	0.29	0.09	0.00	0.00	0.00
260910007	4	0.19	0.18	0.00	0.01	-0.07

261250001	4	0.27	0.08	0.01	0.00	0.18
261470005	4	-0.06	0.11	0.01	0.00	0.21
260991003	4	0.23	0.08	0.01	0.00	0.19
260990009	4	0.12	0.11	0.00	0.00	0.05
261630019	4	0.23	0.13	0.00	0.00	0.05
261630001	5	0.25	0.09	0.02	0.01	0.50
261610008	5	0.38	0.10	0.01	0.01	0.22
260910007	5	0.25	0.19	0.00	0.01	-0.03
261250001	5	0.39	0.09	0.02	0.01	0.40
261470005	5	0.07	0.11	0.01	0.00	0.20
260991003	5	0.35	0.09	0.02	0.01	0.35
260990009	5	0.33	0.13	0.00	0.01	0.02
261630019	5	0.43	0.14	0.00	0.01	0.08
261630001	6	0.60	0.17	0.03	0.01	0.40
261610008	6	0.75	0.16	0.01	0.01	0.19
260910007	6	0.19	0.23	0.01	0.01	0.18
261250001	6	0.78	0.17	0.03	0.01	0.37
261470005	6	0.09	0.18	0.01	0.01	0.28
260991003	6	0.75	0.20	0.02	0.01	0.26
260990009	6	0.68	0.25	0.00	0.01	-0.01
261630019	6	1.04	0.27	0.00	0.01	-0.02
261630001	7	1.41	0.37	0.02	0.01	0.20
261610008	7	1.23	0.33	0.02	0.01	0.19
260910007	7	0.49	0.31	0.01	0.01	0.20
261250001	7	0.86	0.37	0.06	0.01	0.46
261470005	7	-0.24	0.32	0.03	0.01	0.39
260991003	7	0.65	0.47	0.05	0.02	0.36
260990009	7	0.28	0.52	0.03	0.02	0.22
261630019	7	2.13	0.62	-0.01	0.02	-0.07
261630001	8	1.97	0.58	0.03	0.02	0.22
261610008	8	2.24	0.61	0.01	0.02	0.05
260910007	8	1.48	0.50	0.00	0.01	-0.02
261250001	8	1.11	0.53	0.06	0.01	0.46
261470005	8	-0.26	0.41	0.03	0.01	0.36
260991003	8	0.11	0.55	0.08	0.01	0.55
260990009	8	0.09	0.79	0.04	0.02	0.25
261630019	8	1.78	0.99	0.03	0.03	0.13
261630001	9	3.54	0.84	0.00	0.02	-0.01
261610008	9	4.10	0.99	-0.02	0.02	-0.15
260910007	9	2.86	0.66	-0.03	0.01	-0.25

261250001	9	3.24	0.83	0.01	0.02	0.06
261470005	9	0.23	0.50	0.01	0.01	0.17
260991003	9	1.10	0.65	0.05	0.01	0.38
260990009	9	0.04	1.01	0.03	0.02	0.20
261630019	9	1.30	1.21	0.04	0.03	0.22
261630001	10	5.61	1.32	-0.04	0.03	-0.19
261610008	10	5.70	1.75	-0.04	0.03	-0.17
260910007	10	3.79	0.98	-0.04	0.02	-0.30
261250001	10	4.34	1.28	-0.01	0.02	-0.04
261470005	10	0.10	0.68	0.02	0.01	0.15
260991003	10	2.60	1.00	0.01	0.02	0.09
260990009	10	0.25	0.95	0.02	0.02	0.15
261630019	10	1.89	1.67	0.03	0.03	0.14
261630001	11	6.58	1.76	-0.05	0.03	-0.22
261610008	11	6.22	2.16	-0.05	0.04	-0.17
260910007	11	2.93	1.23	-0.03	0.02	-0.18
261250001	11	4.31	1.64	-0.01	0.03	-0.05
261470005	11	0.03	0.62	0.01	0.01	0.14
260991003	11	3.28	1.44	0.00	0.03	0.01
260990009	11	0.67	1.00	0.01	0.02	0.06
261630019	11	2.21	1.89	0.02	0.03	0.09
261630001	12	6.64	1.96	-0.06	0.03	-0.22
261610008	12	5.86	2.13	-0.05	0.04	-0.19
260910007	12	2.59	1.29	-0.03	0.02	-0.17
261250001	12	4.73	2.05	-0.02	0.03	-0.09
261470005	12	-0.16	0.63	0.01	0.01	0.15
260991003	12	2.85	1.60	0.01	0.03	0.03
260990009	12	-0.39	1.03	0.03	0.02	0.19
261630019	12	2.26	1.91	0.01	0.03	0.05
261630001	13	4.84	1.87	-0.03	0.03	-0.14
261610008	13	5.13	2.13	-0.05	0.03	-0.18
260910007	13	1.91	1.00	-0.02	0.02	-0.17
261250001	13	4.84	2.02	-0.03	0.03	-0.11
261470005	13	-0.49	0.46	0.02	0.01	0.25
260991003	13	2.59	1.35	0.00	0.02	0.02
260990009	13	-0.98	0.91	0.03	0.01	0.28
261630019	13	2.26	1.88	0.00	0.03	0.02
261630001	14	3.85	2.01	-0.02	0.03	-0.09
261610008	14	3.57	2.13	-0.03	0.03	-0.10
260910007	14	0.61	0.69	0.00	0.01	-0.04

261250001	14	5.01	1.68	-0.04	0.03	-0.16
261470005	14	-0.52	0.34	0.02	0.01	0.32
260991003	14	2.99	1.25	-0.01	0.02	-0.04
260990009	14	-1.34	0.85	0.04	0.01	0.35
261630019	14	2.27	1.75	0.00	0.03	0.00
261630001	15	3.47	1.95	-0.02	0.03	-0.08
261610008	15	1.98	2.06	0.00	0.03	-0.01
260910007	15	-0.03	0.59	0.01	0.01	0.08
261250001	15	5.04	1.17	-0.05	0.02	-0.27
261470005	15	-0.69	0.33	0.02	0.01	0.40
260991003	15	3.54	1.02	-0.02	0.02	-0.14
260990009	15	-0.97	0.91	0.04	0.02	0.30
261630019	15	2.87	1.55	-0.01	0.03	-0.06
261630001	16	2.95	1.31	-0.02	0.02	-0.09
261610008	16	1.29	1.91	0.01	0.03	0.03
260910007	16	-0.16	0.60	0.01	0.01	0.11
261250001	16	4.16	0.86	-0.04	0.02	-0.30
261470005	16	-1.07	0.39	0.03	0.01	0.48
260991003	16	3.37	0.83	-0.02	0.02	-0.20
260990009	16	0.26	0.87	0.02	0.02	0.14
261630019	16	3.27	1.27	-0.02	0.02	-0.13
261630001	17	2.18	0.70	-0.01	0.01	-0.09
261610008	17	2.01	1.22	-0.01	0.03	-0.05
260910007	17	0.04	0.73	0.01	0.01	0.09
261250001	17	2.76	0.63	-0.02	0.01	-0.20
261470005	17	-0.88	0.40	0.03	0.01	0.42
260991003	17	2.22	0.67	-0.01	0.02	-0.08
260990009	17	1.51	0.84	-0.01	0.02	-0.07
261630019	17	2.75	0.98	-0.02	0.02	-0.14
261630001	18	2.03	0.40	-0.02	0.01	-0.25
261610008	18	2.56	0.71	-0.03	0.02	-0.23
260910007	18	0.08	1.05	0.01	0.02	0.08
261250001	18	1.87	0.53	-0.01	0.02	-0.07
261470005	18	-0.35	0.36	0.02	0.01	0.25
260991003	18	1.60	0.55	0.00	0.02	-0.02
260990009	18	1.79	0.76	-0.02	0.02	-0.14
261630019	18	2.05	0.65	-0.02	0.01	-0.16
261630001	19	1.37	0.24	-0.02	0.01	-0.30
261610008	19	1.91	0.47	-0.03	0.01	-0.26
260910007	19	0.35	1.27	0.01	0.03	0.04

261250001	19	1.43	0.39	-0.01	0.01	-0.08
261470005	19	-0.11	0.31	0.01	0.01	0.12
260991003	19	1.35	0.36	-0.01	0.01	-0.12
260990009	19	1.15	0.53	-0.01	0.01	-0.11
261630019	19	1.08	0.40	-0.01	0.01	-0.10
261630001	20	1.03	0.19	-0.01	0.01	-0.29
261610008	20	1.01	0.32	-0.01	0.01	-0.13
260910007	20	1.27	0.95	-0.02	0.02	-0.10
261250001	20	1.11	0.27	-0.01	0.01	-0.19
261470005	20	0.07	0.24	0.00	0.01	0.01
260991003	20	0.91	0.24	-0.01	0.01	-0.17
260990009	20	0.72	0.34	-0.01	0.01	-0.13
261630019	20	0.61	0.33	0.00	0.01	-0.03
261630001	21	0.63	0.23	0.00	0.01	0.00
261610008	21	0.72	0.22	-0.01	0.01	-0.14
260910007	21	0.95	0.47	-0.01	0.01	-0.16
261250001	21	0.95	0.22	-0.02	0.01	-0.28
261470005	21	0.13	0.22	0.00	0.01	-0.03
260991003	21	0.60	0.22	-0.01	0.01	-0.09
260990009	21	0.54	0.24	-0.01	0.01	-0.19
261630019	21	0.15	0.38	0.01	0.01	0.12
261630001	22	-0.08	0.33	0.02	0.01	0.29
261610008	22	0.45	0.20	0.00	0.01	-0.03
260910007	22	0.32	0.30	0.00	0.01	-0.03
261250001	22	0.79	0.19	-0.01	0.01	-0.28
261470005	22	0.08	0.30	0.00	0.01	0.02
260991003	22	0.58	0.23	-0.01	0.01	-0.13
260990009	22	0.34	0.18	-0.01	0.01	-0.17
261630019	22	-0.22	0.41	0.02	0.01	0.23
261630001	23	-0.22	0.30	0.02	0.01	0.31
261610008	23	0.17	0.23	0.01	0.01	0.10
260910007	23	0.13	0.25	0.00	0.01	0.04
261250001	23	0.48	0.28	0.00	0.01	-0.05
261470005	23	0.11	0.25	0.00	0.01	-0.01
260991003	23	0.40	0.26	0.00	0.01	-0.03
260990009	23	0.18	0.16	0.00	0.00	-0.10
261630019	23	-0.54	0.42	0.03	0.01	0.30

Table S18. Summary of linear regression data for first order VOC sensitivities at Detroit sites in the 75% NOx cut model run ($S_{\text{VOC}} = \text{slope} \times \text{O}_3 + \text{intercept}$).

Site	Hour	Intercept		Slope		Correlation Coefficient
		Value	Standard Error	Value	Standard Error	
261630001	0	0.19	0.13	-0.02	0.00	-0.51
261610008	0	0.24	0.12	-0.02	0.00	-0.60
260910007	0	0.40	0.16	-0.02	0.00	-0.58
261250001	0	0.36	0.14	-0.02	0.00	-0.55
261470005	0	0.48	0.10	-0.02	0.00	-0.75
260991003	0	0.29	0.13	-0.02	0.00	-0.55
260990009	0	0.28	0.13	-0.02	0.00	-0.57
261630019	0	0.08	0.17	-0.01	0.00	-0.32
261630001	1	0.26	0.11	-0.02	0.00	-0.62
261610008	1	0.22	0.11	-0.02	0.00	-0.63
260910007	1	0.36	0.14	-0.02	0.00	-0.61
261250001	1	0.48	0.12	-0.03	0.00	-0.70
261470005	1	0.45	0.11	-0.02	0.00	-0.71
260991003	1	0.32	0.11	-0.02	0.00	-0.62
260990009	1	0.14	0.14	-0.02	0.00	-0.44
261630019	1	0.19	0.16	-0.01	0.00	-0.42
261630001	2	0.26	0.11	-0.02	0.00	-0.63
261610008	2	0.25	0.11	-0.02	0.00	-0.64
260910007	2	0.36	0.13	-0.02	0.00	-0.64
261250001	2	0.51	0.11	-0.03	0.00	-0.72
261470005	2	0.38	0.14	-0.02	0.00	-0.58
260991003	2	0.39	0.10	-0.02	0.00	-0.72
260990009	2	0.23	0.12	-0.02	0.00	-0.55
261630019	2	0.31	0.14	-0.02	0.00	-0.55
261630001	3	0.23	0.09	-0.02	0.00	-0.63
261610008	3	0.20	0.10	-0.02	0.00	-0.62
260910007	3	0.33	0.12	-0.02	0.00	-0.64
261250001	3	0.35	0.10	-0.03	0.00	-0.64
261470005	3	0.29	0.13	-0.02	0.00	-0.55
260991003	3	0.27	0.09	-0.02	0.00	-0.64
260990009	3	0.26	0.11	-0.02	0.00	-0.61
261630019	3	0.32	0.11	-0.02	0.00	-0.62
261630001	4	0.25	0.08	-0.02	0.00	-0.53
261610008	4	0.22	0.08	-0.02	0.00	-0.58
260910007	4	0.32	0.12	-0.02	0.00	-0.63

261250001	4	0.29	0.08	-0.02	0.00	-0.50
261470005	4	0.28	0.09	-0.02	0.00	-0.64
260991003	4	0.22	0.08	-0.02	0.00	-0.45
260990009	4	0.22	0.09	-0.02	0.00	-0.57
261630019	4	0.34	0.10	-0.02	0.00	-0.60
261630001	5	0.59	0.09	-0.01	0.01	-0.26
261610008	5	0.60	0.08	-0.02	0.00	-0.50
260910007	5	0.45	0.11	-0.02	0.00	-0.63
261250001	5	0.77	0.09	-0.02	0.01	-0.36
261470005	5	0.31	0.08	-0.02	0.00	-0.58
260991003	5	0.65	0.10	-0.01	0.01	-0.28
260990009	5	0.51	0.10	-0.02	0.00	-0.55
261630019	5	0.80	0.13	-0.03	0.01	-0.52
261630001	6	1.64	0.20	-0.03	0.01	-0.29
261610008	6	1.47	0.17	-0.03	0.01	-0.43
260910007	6	0.72	0.14	-0.02	0.00	-0.56
261250001	6	1.78	0.22	-0.02	0.01	-0.21
261470005	6	0.46	0.13	-0.01	0.00	-0.30
260991003	6	1.56	0.25	-0.02	0.01	-0.15
260990009	6	1.13	0.25	-0.03	0.01	-0.35
261630019	6	1.99	0.33	-0.04	0.01	-0.40
261630001	7	3.04	0.45	-0.04	0.02	-0.28
261610008	7	2.51	0.38	-0.04	0.01	-0.34
260910007	7	1.35	0.23	-0.03	0.01	-0.50
261250001	7	2.33	0.46	0.00	0.02	0.01
261470005	7	0.43	0.23	0.00	0.01	-0.06
260991003	7	1.73	0.57	0.01	0.02	0.08
260990009	7	0.98	0.52	0.00	0.02	-0.03
261630019	7	3.81	0.76	-0.06	0.02	-0.32
261630001	8	3.97	0.68	-0.04	0.02	-0.26
261610008	8	4.03	0.66	-0.06	0.02	-0.40
260910007	8	2.38	0.39	-0.04	0.01	-0.52
261250001	8	3.07	0.62	-0.01	0.02	-0.11
261470005	8	0.66	0.28	-0.01	0.01	-0.16
260991003	8	1.62	0.58	0.02	0.02	0.14
260990009	8	1.05	0.69	0.00	0.02	-0.01
261630019	8	3.49	1.14	-0.03	0.03	-0.11
261630001	9	5.64	0.82	-0.07	0.02	-0.47
261610008	9	5.64	1.00	-0.08	0.02	-0.45
260910007	9	3.43	0.53	-0.06	0.01	-0.58

261250001	9	4.76	0.72	-0.06	0.02	-0.43
261470005	9	1.08	0.34	-0.02	0.01	-0.32
260991003	9	2.73	0.55	-0.02	0.01	-0.22
260990009	9	1.19	0.65	-0.01	0.01	-0.12
261630019	9	3.00	1.09	-0.02	0.02	-0.10
261630001	10	6.46	1.00	-0.09	0.02	-0.51
261610008	10	6.34	1.28	-0.09	0.02	-0.44
260910007	10	3.58	0.67	-0.06	0.01	-0.55
261250001	10	4.81	0.86	-0.06	0.02	-0.43
261470005	10	1.04	0.40	-0.02	0.01	-0.29
260991003	10	3.70	0.72	-0.05	0.01	-0.39
260990009	10	1.60	0.58	-0.03	0.01	-0.30
261630019	10	2.65	0.92	-0.02	0.02	-0.15
261630001	11	5.37	0.92	-0.07	0.02	-0.51
261610008	11	5.26	1.18	-0.08	0.02	-0.43
260910007	11	2.41	0.60	-0.04	0.01	-0.48
261250001	11	3.96	1.05	-0.05	0.02	-0.33
261470005	11	0.96	0.37	-0.02	0.01	-0.33
260991003	11	3.54	1.01	-0.04	0.02	-0.29
260990009	11	1.63	0.59	-0.03	0.01	-0.33
261630019	11	2.28	0.75	-0.02	0.01	-0.21
261630001	12	4.20	0.75	-0.06	0.01	-0.52
261610008	12	3.30	0.87	-0.05	0.01	-0.41
260910007	12	1.91	0.52	-0.04	0.01	-0.49
261250001	12	3.70	1.29	-0.05	0.02	-0.27
261470005	12	0.64	0.32	-0.01	0.01	-0.33
260991003	12	2.96	1.10	-0.03	0.02	-0.23
260990009	12	0.76	0.49	-0.01	0.01	-0.22
261630019	12	1.81	0.68	-0.02	0.01	-0.22
261630001	13	3.12	0.73	-0.04	0.01	-0.43
261610008	13	2.26	0.66	-0.04	0.01	-0.41
260910007	13	1.57	0.40	-0.03	0.01	-0.56
261250001	13	3.00	0.86	-0.04	0.01	-0.33
261470005	13	0.43	0.24	-0.01	0.00	-0.38
260991003	13	2.58	0.77	-0.03	0.01	-0.29
260990009	13	0.46	0.46	-0.01	0.01	-0.17
261630019	13	1.54	0.63	-0.02	0.01	-0.23
261630001	14	2.65	0.90	-0.04	0.01	-0.32
261610008	14	1.64	0.59	-0.03	0.01	-0.36
260910007	14	1.15	0.34	-0.03	0.01	-0.55

261250001	14	3.07	0.62	-0.04	0.01	-0.46
261470005	14	0.40	0.21	-0.01	0.00	-0.44
260991003	14	3.09	0.79	-0.04	0.01	-0.36
260990009	14	0.29	0.43	-0.01	0.01	-0.12
261630019	14	1.59	0.59	-0.02	0.01	-0.27
261630001	15	2.64	0.99	-0.04	0.02	-0.28
261610008	15	1.50	0.61	-0.03	0.01	-0.32
260910007	15	1.01	0.32	-0.03	0.01	-0.53
261250001	15	3.79	0.60	-0.06	0.01	-0.57
261470005	15	0.23	0.19	-0.01	0.00	-0.37
260991003	15	3.75	0.72	-0.05	0.01	-0.48
260990009	15	0.38	0.50	-0.01	0.01	-0.11
261630019	15	2.22	0.57	-0.03	0.01	-0.39
261630001	16	2.73	0.82	-0.04	0.02	-0.34
261610008	16	1.75	0.76	-0.03	0.01	-0.28
260910007	16	0.96	0.32	-0.03	0.01	-0.52
261250001	16	3.88	0.53	-0.06	0.01	-0.63
261470005	16	-0.05	0.20	0.00	0.00	-0.14
260991003	16	3.56	0.58	-0.06	0.01	-0.54
260990009	16	0.78	0.47	-0.01	0.01	-0.21
261630019	16	2.87	0.57	-0.04	0.01	-0.49
261630001	17	2.23	0.51	-0.04	0.01	-0.42
261610008	17	2.21	0.75	-0.04	0.02	-0.33
260910007	17	1.05	0.34	-0.03	0.01	-0.49
261250001	17	2.78	0.41	-0.05	0.01	-0.58
261470005	17	0.05	0.19	-0.01	0.00	-0.21
260991003	17	2.18	0.37	-0.04	0.01	-0.51
260990009	17	1.36	0.45	-0.03	0.01	-0.36
261630019	17	2.54	0.55	-0.04	0.01	-0.46
261630001	18	1.89	0.30	-0.04	0.01	-0.59
261610008	18	2.33	0.52	-0.05	0.01	-0.48
260910007	18	0.98	0.45	-0.02	0.01	-0.34
261250001	18	1.84	0.33	-0.04	0.01	-0.46
261470005	18	0.32	0.15	-0.01	0.00	-0.48
260991003	18	1.42	0.30	-0.03	0.01	-0.40
260990009	18	1.43	0.38	-0.03	0.01	-0.42
261630019	18	1.84	0.38	-0.04	0.01	-0.50
261630001	19	1.17	0.18	-0.04	0.01	-0.66
261610008	19	1.65	0.34	-0.05	0.01	-0.54
260910007	19	1.08	0.64	-0.03	0.01	-0.26

261250001	19	1.06	0.24	-0.03	0.01	-0.42
261470005	19	0.39	0.17	-0.02	0.00	-0.52
260991003	19	1.02	0.22	-0.03	0.01	-0.48
260990009	19	0.94	0.25	-0.03	0.01	-0.47
261630019	19	0.97	0.22	-0.03	0.01	-0.54
261630001	20	0.75	0.15	-0.03	0.00	-0.66
261610008	20	0.71	0.24	-0.03	0.01	-0.43
260910007	20	1.50	0.57	-0.04	0.01	-0.38
261250001	20	0.66	0.17	-0.03	0.01	-0.50
261470005	20	0.52	0.16	-0.02	0.00	-0.60
260991003	20	0.62	0.14	-0.03	0.00	-0.59
260990009	20	0.66	0.16	-0.02	0.00	-0.59
261630019	20	0.62	0.19	-0.02	0.00	-0.54
261630001	21	0.51	0.14	-0.02	0.00	-0.58
261610008	21	0.37	0.17	-0.02	0.01	-0.44
260910007	21	1.26	0.33	-0.04	0.01	-0.55
261250001	21	0.55	0.15	-0.03	0.00	-0.59
261470005	21	0.58	0.12	-0.03	0.00	-0.72
260991003	21	0.41	0.12	-0.02	0.00	-0.59
260990009	21	0.51	0.11	-0.02	0.00	-0.71
261630019	21	0.48	0.19	-0.02	0.00	-0.50
261630001	22	0.19	0.15	-0.01	0.00	-0.36
261610008	22	0.28	0.14	-0.02	0.00	-0.51
260910007	22	0.76	0.20	-0.03	0.00	-0.61
261250001	22	0.53	0.13	-0.03	0.00	-0.67
261470005	22	0.56	0.14	-0.03	0.00	-0.67
260991003	22	0.41	0.12	-0.02	0.00	-0.63
260990009	22	0.40	0.10	-0.02	0.00	-0.73
261630019	22	0.38	0.18	-0.02	0.00	-0.47
261630001	23	0.10	0.15	-0.01	0.00	-0.35
261610008	23	0.18	0.13	-0.02	0.00	-0.50
260910007	23	0.49	0.18	-0.02	0.00	-0.58
261250001	23	0.47	0.14	-0.03	0.00	-0.62
261470005	23	0.54	0.13	-0.03	0.00	-0.70
260991003	23	0.41	0.12	-0.02	0.00	-0.64
260990009	23	0.33	0.11	-0.02	0.00	-0.66
261630019	23	0.17	0.18	-0.01	0.00	-0.36

Table S19. Summary of linear regression data for second order VOC sensitivities at Detroit sites in the base model run ($S^2_{\text{VOC}} = \text{slope} \times S_{\text{VOC}} + \text{intercept}$).

Site	Hour	Intercept		Slope		Correlation Coefficient
		Value	Standard Error	Value	Standard Error	
261630001	0	0.39	0.17	-1.06	0.06	-0.91
261610008	0	0.22	0.17	-0.91	0.08	-0.83
260910007	0	0.26	0.20	-1.00	0.09	-0.83
261250001	0	0.16	0.16	-0.83	0.05	-0.91
261470005	0	0.00	0.08	-0.74	0.05	-0.88
260991003	0	0.11	0.15	-0.82	0.05	-0.92
260990009	0	-0.05	0.08	-0.67	0.04	-0.92
261630019	0	0.29	0.18	-1.05	0.05	-0.93
261630001	1	0.45	0.14	-1.17	0.06	-0.93
261610008	1	0.50	0.15	-1.27	0.09	-0.88
260910007	1	0.37	0.16	-1.11	0.08	-0.88
261250001	1	0.32	0.16	-1.00	0.07	-0.88
261470005	1	0.08	0.09	-0.91	0.06	-0.89
260991003	1	0.24	0.14	-0.96	0.06	-0.90
260990009	1	-0.02	0.07	-0.74	0.03	-0.96
261630019	1	0.33	0.15	-1.10	0.05	-0.94
261630001	2	0.51	0.13	-1.22	0.07	-0.92
261610008	2	0.54	0.13	-1.34	0.08	-0.91
260910007	2	0.35	0.12	-1.13	0.07	-0.91
261250001	2	0.50	0.14	-1.18	0.08	-0.89
261470005	2	0.06	0.10	-0.89	0.06	-0.90
260991003	2	0.40	0.13	-1.11	0.08	-0.88
260990009	2	0.04	0.08	-0.82	0.04	-0.94
261630019	2	0.38	0.13	-1.17	0.05	-0.95
261630001	3	0.54	0.13	-1.24	0.07	-0.91
261610008	3	0.50	0.11	-1.26	0.07	-0.92
260910007	3	0.24	0.10	-1.03	0.06	-0.91
261250001	3	0.51	0.11	-1.21	0.07	-0.91
261470005	3	0.13	0.11	-0.94	0.07	-0.87
260991003	3	0.43	0.11	-1.16	0.08	-0.88
260990009	3	0.16	0.09	-0.94	0.06	-0.88
261630019	3	0.43	0.12	-1.21	0.06	-0.93
261630001	4	0.46	0.10	-1.22	0.06	-0.92
261610008	4	0.36	0.09	-1.07	0.06	-0.92
260910007	4	0.18	0.08	-0.93	0.05	-0.91

261250001	4	0.33	0.08	-1.01	0.07	-0.89
261470005	4	0.30	0.11	-1.09	0.09	-0.85
260991003	4	0.28	0.08	-0.97	0.08	-0.86
260990009	4	0.22	0.08	-0.92	0.07	-0.87
261630019	4	0.60	0.13	-1.33	0.08	-0.91
261630001	5	0.44	0.10	-1.07	0.07	-0.88
261610008	5	0.25	0.06	-0.79	0.04	-0.92
260910007	5	0.21	0.07	-0.84	0.04	-0.93
261250001	5	0.25	0.06	-0.71	0.06	-0.86
261470005	5	0.36	0.10	-1.03	0.08	-0.86
260991003	5	0.21	0.06	-0.68	0.06	-0.81
260990009	5	0.25	0.08	-0.79	0.07	-0.84
261630019	5	0.68	0.11	-1.33	0.07	-0.93
261630001	6	0.55	0.09	-0.80	0.05	-0.89
261610008	6	0.34	0.07	-0.60	0.05	-0.86
260910007	6	0.37	0.07	-0.78	0.04	-0.94
261250001	6	0.38	0.08	-0.52	0.05	-0.78
261470005	6	0.31	0.09	-0.74	0.06	-0.84
260991003	6	0.33	0.08	-0.49	0.06	-0.73
260990009	6	0.27	0.09	-0.55	0.06	-0.74
261630019	6	0.75	0.12	-0.95	0.07	-0.87
261630001	7	0.88	0.16	-0.64	0.07	-0.78
261610008	7	0.61	0.16	-0.52	0.07	-0.69
260910007	7	0.78	0.14	-0.81	0.06	-0.88
261250001	7	0.69	0.15	-0.41	0.06	-0.65
261470005	7	0.25	0.09	-0.49	0.05	-0.80
260991003	7	0.44	0.14	-0.30	0.06	-0.55
260990009	7	0.19	0.11	-0.29	0.05	-0.58
261630019	7	0.66	0.19	-0.48	0.07	-0.64
261630001	8	1.18	0.27	-0.52	0.08	-0.67
261610008	8	0.58	0.24	-0.34	0.07	-0.54
260910007	8	0.79	0.24	-0.65	0.08	-0.74
261250001	8	0.94	0.24	-0.37	0.06	-0.60
261470005	8	0.22	0.10	-0.41	0.04	-0.79
260991003	8	0.61	0.18	-0.28	0.05	-0.59
260990009	8	0.04	0.14	-0.17	0.05	-0.44
261630019	8	0.83	0.28	-0.40	0.07	-0.57
261630001	9	1.30	0.39	-0.47	0.08	-0.58
261610008	9	0.34	0.31	-0.23	0.07	-0.39
260910007	9	0.33	0.29	-0.42	0.09	-0.53

261250001	9	0.92	0.34	-0.33	0.07	-0.51
261470005	9	0.32	0.12	-0.51	0.04	-0.85
260991003	9	0.67	0.21	-0.29	0.05	-0.63
260990009	9	-0.23	0.16	-0.12	0.05	-0.32
261630019	9	1.36	0.40	-0.51	0.08	-0.65
261630001	10	0.62	0.46	-0.29	0.08	-0.41
261610008	10	-0.51	0.38	-0.04	0.07	-0.07
260910007	10	-0.19	0.28	-0.25	0.07	-0.40
261250001	10	0.26	0.41	-0.18	0.07	-0.33
261470005	10	0.13	0.11	-0.44	0.03	-0.87
260991003	10	0.30	0.27	-0.21	0.05	-0.49
260990009	10	-0.23	0.16	-0.20	0.04	-0.55
261630019	10	1.45	0.51	-0.48	0.08	-0.63
261630001	11	-0.11	0.48	-0.18	0.07	-0.30
261610008	11	-0.47	0.39	-0.09	0.06	-0.20
260910007	11	-0.34	0.27	-0.27	0.06	-0.48
261250001	11	-0.19	0.45	-0.14	0.06	-0.30
261470005	11	0.01	0.15	-0.45	0.05	-0.79
260991003	11	-0.15	0.37	-0.15	0.05	-0.34
260990009	11	-0.19	0.16	-0.28	0.03	-0.73
261630019	11	1.49	0.65	-0.50	0.08	-0.62
261630001	12	-0.75	0.44	-0.08	0.06	-0.17
261610008	12	0.07	0.47	-0.28	0.06	-0.50
260910007	12	-0.32	0.27	-0.35	0.07	-0.56
261250001	12	-0.67	0.44	-0.11	0.05	-0.26
261470005	12	-0.07	0.15	-0.47	0.05	-0.79
260991003	12	-0.49	0.40	-0.14	0.05	-0.32
260990009	12	-0.01	0.19	-0.42	0.04	-0.83
261630019	12	2.09	0.84	-0.69	0.09	-0.68
261630001	13	-0.90	0.38	-0.07	0.05	-0.18
261610008	13	0.19	0.49	-0.38	0.06	-0.61
260910007	13	-0.41	0.23	-0.34	0.06	-0.57
261250001	13	-1.04	0.42	-0.06	0.05	-0.15
261470005	13	-0.11	0.15	-0.52	0.05	-0.81
260991003	13	-0.63	0.30	-0.15	0.04	-0.42
260990009	13	0.14	0.23	-0.51	0.04	-0.83
261630019	13	2.06	0.89	-0.78	0.11	-0.69
261630001	14	-1.19	0.32	-0.02	0.04	-0.05
261610008	14	0.07	0.44	-0.39	0.06	-0.65
260910007	14	-0.31	0.19	-0.42	0.05	-0.71

261250001	14	-1.17	0.41	-0.01	0.05	-0.03
261470005	14	0.04	0.12	-0.62	0.04	-0.89
260991003	14	-0.37	0.27	-0.19	0.04	-0.55
260990009	14	0.04	0.23	-0.46	0.04	-0.82
261630019	14	0.92	0.70	-0.58	0.09	-0.64
261630001	15	-1.15	0.27	0.00	0.04	0.00
261610008	15	-0.36	0.35	-0.28	0.05	-0.62
260910007	15	-0.30	0.23	-0.48	0.07	-0.69
261250001	15	-0.70	0.39	-0.07	0.06	-0.15
261470005	15	0.08	0.13	-0.64	0.04	-0.90
260991003	15	0.12	0.27	-0.29	0.04	-0.68
260990009	15	-0.02	0.21	-0.41	0.04	-0.82
261630019	15	0.00	0.48	-0.36	0.07	-0.56
261630001	16	-0.78	0.26	-0.09	0.05	-0.23
261610008	16	-0.64	0.29	-0.18	0.04	-0.50
260910007	16	0.07	0.24	-0.70	0.07	-0.79
261250001	16	-0.23	0.28	-0.18	0.05	-0.43
261470005	16	0.11	0.15	-0.60	0.04	-0.89
260991003	16	0.23	0.29	-0.32	0.05	-0.62
260990009	16	-0.16	0.22	-0.35	0.04	-0.72
261630019	16	-0.42	0.39	-0.22	0.06	-0.42
261630001	17	-0.17	0.26	-0.29	0.06	-0.51
261610008	17	-0.48	0.24	-0.20	0.04	-0.50
260910007	17	0.37	0.19	-0.83	0.05	-0.90
261250001	17	0.02	0.22	-0.28	0.05	-0.60
261470005	17	0.12	0.13	-0.61	0.04	-0.90
260991003	17	0.21	0.22	-0.35	0.05	-0.68
260990009	17	-0.30	0.24	-0.25	0.06	-0.46
261630019	17	-0.56	0.31	-0.16	0.06	-0.32
261630001	18	0.23	0.24	-0.49	0.08	-0.63
261610008	18	-0.22	0.23	-0.28	0.05	-0.55
260910007	18	-0.17	0.22	-0.56	0.05	-0.84
261250001	18	0.13	0.20	-0.35	0.05	-0.63
261470005	18	-0.07	0.10	-0.45	0.04	-0.84
260991003	18	0.15	0.15	-0.38	0.04	-0.78
260990009	18	-0.15	0.22	-0.27	0.06	-0.48
261630019	18	-0.17	0.22	-0.31	0.05	-0.60
261630001	19	0.44	0.21	-0.71	0.08	-0.75
261610008	19	-0.06	0.23	-0.40	0.07	-0.61
260910007	19	-0.49	0.28	-0.41	0.06	-0.66

261250001	19	0.14	0.20	-0.40	0.06	-0.63
261470005	19	-0.12	0.09	-0.43	0.05	-0.77
260991003	19	0.14	0.14	-0.46	0.05	-0.79
260990009	19	0.02	0.14	-0.42	0.05	-0.74
261630019	19	0.16	0.16	-0.53	0.05	-0.83
261630001	20	0.64	0.24	-0.92	0.10	-0.77
261610008	20	0.05	0.23	-0.53	0.08	-0.64
260910007	20	-0.23	0.28	-0.56	0.08	-0.68
261250001	20	0.16	0.20	-0.50	0.08	-0.61
261470005	20	-0.06	0.09	-0.53	0.05	-0.78
260991003	20	0.16	0.12	-0.59	0.05	-0.84
260990009	20	-0.01	0.09	-0.47	0.04	-0.85
261630019	20	0.29	0.17	-0.72	0.05	-0.88
261630001	21	0.51	0.27	-0.89	0.09	-0.80
261610008	21	0.26	0.21	-0.73	0.09	-0.72
260910007	21	0.07	0.21	-0.77	0.07	-0.80
261250001	21	0.35	0.17	-0.74	0.08	-0.75
261470005	21	0.02	0.09	-0.64	0.05	-0.85
260991003	21	0.18	0.11	-0.70	0.04	-0.90
260990009	21	-0.03	0.07	-0.51	0.04	-0.85
261630019	21	0.30	0.21	-0.84	0.05	-0.90
261630001	22	0.27	0.24	-0.83	0.05	-0.90
261610008	22	0.17	0.18	-0.74	0.07	-0.81
260910007	22	0.07	0.21	-0.83	0.08	-0.81
261250001	22	0.27	0.17	-0.76	0.09	-0.75
261470005	22	-0.04	0.08	-0.56	0.04	-0.88
260991003	22	0.11	0.13	-0.68	0.06	-0.84
260990009	22	0.01	0.07	-0.61	0.05	-0.85
261630019	22	0.04	0.25	-0.78	0.05	-0.88
261630001	23	0.23	0.21	-0.89	0.05	-0.91
261610008	23	0.10	0.17	-0.75	0.06	-0.87
260910007	23	0.13	0.22	-0.90	0.09	-0.80
261250001	23	0.17	0.16	-0.76	0.05	-0.88
261470005	23	-0.05	0.07	-0.60	0.04	-0.89
260991003	23	0.04	0.15	-0.69	0.06	-0.84
260990009	23	0.03	0.07	-0.70	0.05	-0.86
261630019	23	0.11	0.23	-0.89	0.05	-0.92

Table S20. Summary of linear regression data for second order VOC sensitivities at Detroit sites in the 50% NOx cut model run ($S^2_{\text{VOC}} = \text{slope} \times S_{\text{VOC}} + \text{intercept}$).

Site	Hour	Intercept		Slope		Correlation Coefficient
		Value	Standard Error	Value	Standard Error	
261630001	0	0.12	0.09	-0.44	0.03	-0.78
261610008	0	0.09	0.04	-0.43	0.02	-0.70
260910007	0	0.11	0.04	-0.46	0.02	-0.67
261250001	0	0.02	0.05	-0.37	0.02	-0.81
261470005	0	-0.02	0.03	-0.38	0.02	-0.67
260991003	0	0.00	0.05	-0.36	0.02	-0.85
260990009	0	-0.05	0.03	-0.33	0.01	-0.80
261630019	0	0.04	0.09	-0.43	0.03	-0.82
261630001	1	0.14	0.08	-0.48	0.03	-0.72
261610008	1	0.12	0.04	-0.48	0.03	-0.56
260910007	1	0.08	0.04	-0.46	0.02	-0.65
261250001	1	0.08	0.05	-0.44	0.02	-0.65
261470005	1	-0.02	0.03	-0.39	0.02	-0.62
260991003	1	0.05	0.05	-0.41	0.02	-0.76
260990009	1	-0.05	0.03	-0.33	0.01	-0.90
261630019	1	0.05	0.08	-0.45	0.03	-0.80
261630001	2	0.18	0.06	-0.53	0.03	-0.68
261610008	2	0.11	0.04	-0.47	0.03	-0.53
260910007	2	0.06	0.03	-0.45	0.02	-0.66
261250001	2	0.12	0.05	-0.48	0.03	-0.54
261470005	2	-0.03	0.03	-0.38	0.02	-0.73
260991003	2	0.09	0.05	-0.46	0.03	-0.56
260990009	2	-0.02	0.03	-0.36	0.01	-0.83
261630019	2	0.06	0.08	-0.46	0.03	-0.77
261630001	3	0.19	0.05	-0.56	0.03	-0.66
261610008	3	0.09	0.04	-0.45	0.02	-0.54
260910007	3	0.04	0.03	-0.44	0.02	-0.68
261250001	3	0.14	0.04	-0.49	0.02	-0.49
261470005	3	-0.01	0.04	-0.42	0.02	-0.72
260991003	3	0.12	0.04	-0.48	0.03	-0.48
260990009	3	0.01	0.03	-0.41	0.02	-0.60
261630019	3	0.11	0.07	-0.50	0.04	-0.70
261630001	4	0.15	0.04	-0.58	0.03	-0.70
261610008	4	0.08	0.03	-0.43	0.02	-0.60
260910007	4	0.04	0.03	-0.44	0.02	-0.72

261250001	4	0.12	0.03	-0.46	0.03	-0.55
261470005	4	0.03	0.04	-0.47	0.03	-0.64
260991003	4	0.08	0.03	-0.45	0.03	-0.50
260990009	4	0.03	0.03	-0.41	0.02	-0.57
261630019	4	0.23	0.06	-0.62	0.03	-0.62
261630001	5	0.19	0.04	-0.53	0.03	-0.68
261610008	5	0.12	0.03	-0.41	0.02	-0.63
260910007	5	0.07	0.03	-0.44	0.02	-0.78
261250001	5	0.15	0.04	-0.39	0.04	-0.47
261470005	5	0.05	0.03	-0.42	0.03	-0.61
260991003	5	0.10	0.04	-0.35	0.04	-0.42
260990009	5	0.05	0.03	-0.37	0.03	-0.52
261630019	5	0.32	0.06	-0.63	0.04	-0.50
261630001	6	0.47	0.06	-0.55	0.04	-0.51
261610008	6	0.26	0.05	-0.38	0.04	-0.32
260910007	6	0.21	0.04	-0.48	0.02	-0.83
261250001	6	0.36	0.07	-0.35	0.05	-0.20
261470005	6	0.07	0.03	-0.34	0.02	-0.62
260991003	6	0.25	0.06	-0.27	0.05	-0.07
260990009	6	0.06	0.05	-0.23	0.03	-0.27
261630019	6	0.46	0.09	-0.49	0.05	-0.18
261630001	7	0.81	0.15	-0.49	0.06	-0.18
261610008	7	0.56	0.12	-0.41	0.05	-0.26
260910007	7	0.50	0.07	-0.56	0.03	-0.71
261250001	7	0.61	0.13	-0.32	0.05	-0.17
261470005	7	0.10	0.04	-0.31	0.02	-0.69
260991003	7	0.26	0.12	-0.15	0.05	0.05
260990009	7	0.01	0.07	-0.13	0.03	-0.14
261630019	7	0.59	0.18	-0.35	0.07	0.08
261630001	8	0.93	0.21	-0.39	0.06	-0.07
261610008	8	0.76	0.18	-0.40	0.05	-0.16
260910007	8	0.65	0.12	-0.53	0.04	-0.47
261250001	8	0.84	0.18	-0.37	0.05	-0.27
261470005	8	0.22	0.06	-0.38	0.02	-0.73
260991003	8	0.41	0.14	-0.25	0.04	-0.29
260990009	8	0.00	0.08	-0.16	0.03	-0.27
261630019	8	0.73	0.27	-0.34	0.07	0.00
261630001	9	1.05	0.25	-0.42	0.05	-0.02
261610008	9	0.49	0.25	-0.29	0.06	0.15
260910007	9	0.31	0.15	-0.37	0.04	-0.16

261250001	9	0.89	0.21	-0.39	0.04	-0.18
261470005	9	0.31	0.08	-0.44	0.03	-0.70
260991003	9	0.59	0.14	-0.36	0.03	-0.45
260990009	9	0.10	0.07	-0.27	0.02	-0.64
261630019	9	0.97	0.28	-0.44	0.06	-0.23
261630001	10	0.69	0.25	-0.34	0.04	-0.05
261610008	10	0.49	0.21	-0.32	0.04	-0.29
260910007	10	0.01	0.13	-0.28	0.03	-0.18
261250001	10	0.80	0.20	-0.40	0.03	-0.42
261470005	10	0.32	0.08	-0.47	0.02	-0.79
260991003	10	0.72	0.17	-0.41	0.03	-0.51
260990009	10	0.32	0.10	-0.41	0.02	-0.74
261630019	10	1.12	0.26	-0.50	0.04	-0.47
261630001	11	0.49	0.19	-0.35	0.03	-0.37
261610008	11	1.38	0.32	-0.59	0.05	-0.63
260910007	11	0.01	0.09	-0.31	0.02	-0.45
261250001	11	0.90	0.27	-0.44	0.04	-0.59
261470005	11	0.16	0.06	-0.40	0.02	-0.75
260991003	11	0.65	0.23	-0.40	0.03	-0.53
260990009	11	0.13	0.08	-0.33	0.02	-0.64
261630019	11	1.17	0.21	-0.55	0.03	-0.67
261630001	12	0.54	0.16	-0.41	0.02	-0.69
261610008	12	0.98	0.27	-0.53	0.04	-0.58
260910007	12	0.01	0.07	-0.33	0.02	-0.67
261250001	12	1.02	0.30	-0.47	0.04	-0.68
261470005	12	0.05	0.05	-0.36	0.02	-0.85
260991003	12	0.59	0.21	-0.39	0.03	-0.59
260990009	12	0.12	0.06	-0.36	0.01	-0.89
261630019	12	1.07	0.21	-0.55	0.02	-0.70
261630001	13	0.75	0.30	-0.47	0.04	-0.79
261610008	13	0.61	0.22	-0.47	0.03	-0.68
260910007	13	-0.08	0.05	-0.29	0.01	-0.73
261250001	13	1.31	0.25	-0.56	0.03	-0.88
261470005	13	0.03	0.05	-0.36	0.02	-0.92
260991003	13	0.51	0.14	-0.38	0.02	-0.67
260990009	13	0.08	0.07	-0.35	0.01	-0.90
261630019	13	1.06	0.23	-0.54	0.03	-0.74
261630001	14	1.02	0.24	-0.54	0.03	-0.81
261610008	14	0.74	0.21	-0.53	0.03	-0.84
260910007	14	-0.09	0.05	-0.26	0.01	-0.67

261250001	14	1.21	0.26	-0.57	0.03	-0.89
261470005	14	-0.01	0.04	-0.32	0.01	-0.89
260991003	14	0.35	0.13	-0.34	0.02	-0.58
260990009	14	0.02	0.05	-0.31	0.01	-0.83
261630019	14	1.03	0.21	-0.55	0.03	-0.78
261630001	15	0.75	0.15	-0.48	0.02	-0.82
261610008	15	1.01	0.24	-0.62	0.03	-0.91
260910007	15	-0.08	0.06	-0.26	0.02	-0.67
261250001	15	0.76	0.26	-0.47	0.04	-0.79
261470005	15	-0.02	0.03	-0.31	0.01	-0.88
260991003	15	0.28	0.12	-0.31	0.02	-0.50
260990009	15	0.00	0.06	-0.30	0.01	-0.77
261630019	15	0.87	0.19	-0.52	0.03	-0.82
261630001	16	0.27	0.11	-0.34	0.02	-0.62
261610008	16	0.95	0.22	-0.60	0.03	-0.94
260910007	16	0.05	0.08	-0.33	0.02	-0.65
261250001	16	0.38	0.18	-0.35	0.03	-0.65
261470005	16	-0.03	0.04	-0.31	0.01	-0.90
260991003	16	0.22	0.13	-0.29	0.02	-0.45
260990009	16	0.02	0.07	-0.31	0.01	-0.77
261630019	16	0.70	0.18	-0.48	0.03	-0.81
261630001	17	0.18	0.09	-0.30	0.02	-0.45
261610008	17	0.36	0.08	-0.38	0.02	-0.85
260910007	17	0.29	0.09	-0.45	0.03	-0.71
261250001	17	0.25	0.09	-0.29	0.02	-0.49
261470005	17	-0.04	0.04	-0.31	0.01	-0.90
260991003	17	0.09	0.14	-0.28	0.03	-0.71
260990009	17	0.07	0.08	-0.34	0.02	-0.78
261630019	17	0.40	0.17	-0.38	0.03	-0.68
261630001	18	0.20	0.08	-0.31	0.03	-0.26
261610008	18	0.16	0.09	-0.28	0.02	-0.44
260910007	18	0.52	0.12	-0.56	0.03	-0.88
261250001	18	0.18	0.07	-0.27	0.02	-0.51
261470005	18	-0.02	0.03	-0.34	0.01	-0.89
260991003	18	0.03	0.09	-0.26	0.02	-0.79
260990009	18	0.06	0.07	-0.32	0.02	-0.77
261630019	18	0.13	0.09	-0.30	0.02	-0.57
261630001	19	0.19	0.08	-0.35	0.03	-0.23
261610008	19	0.11	0.09	-0.28	0.03	-0.28
260910007	19	0.43	0.10	-0.55	0.02	-0.93

261250001	19	0.15	0.05	-0.27	0.02	-0.56
261470005	19	-0.05	0.03	-0.33	0.02	-0.76
260991003	19	0.04	0.05	-0.26	0.02	-0.64
260990009	19	0.01	0.05	-0.30	0.02	-0.80
261630019	19	0.08	0.06	-0.31	0.02	-0.68
261630001	20	0.18	0.08	-0.39	0.04	-0.29
261610008	20	0.10	0.08	-0.31	0.03	-0.39
260910007	20	0.11	0.06	-0.41	0.02	-0.81
261250001	20	0.15	0.05	-0.33	0.02	-0.55
261470005	20	-0.06	0.03	-0.31	0.02	-0.56
260991003	20	0.05	0.04	-0.30	0.02	-0.62
260990009	20	-0.02	0.03	-0.29	0.01	-0.80
261630019	20	0.06	0.05	-0.34	0.02	-0.75
261630001	21	0.17	0.09	-0.41	0.03	-0.60
261610008	21	0.09	0.06	-0.34	0.03	-0.45
260910007	21	0.04	0.06	-0.36	0.02	-0.51
261250001	21	0.09	0.05	-0.35	0.02	-0.47
261470005	21	0.01	0.03	-0.41	0.02	-0.77
260991003	21	0.05	0.04	-0.34	0.02	-0.72
260990009	21	-0.03	0.03	-0.30	0.02	-0.73
261630019	21	0.01	0.06	-0.35	0.01	-0.83
261630001	22	0.06	0.10	-0.38	0.02	-0.85
261610008	22	0.07	0.04	-0.36	0.02	-0.68
260910007	22	0.09	0.05	-0.41	0.02	-0.63
261250001	22	0.12	0.05	-0.41	0.03	-0.46
261470005	22	0.00	0.03	-0.42	0.01	-0.87
260991003	22	0.05	0.04	-0.36	0.02	-0.74
260990009	22	-0.03	0.03	-0.33	0.02	-0.66
261630019	22	-0.05	0.09	-0.35	0.02	-0.84
261630001	23	0.07	0.09	-0.40	0.02	-0.86
261610008	23	0.04	0.04	-0.36	0.01	-0.83
260910007	23	0.11	0.04	-0.44	0.02	-0.67
261250001	23	0.02	0.06	-0.35	0.02	-0.76
261470005	23	-0.02	0.03	-0.39	0.02	-0.80
260991003	23	0.01	0.05	-0.35	0.02	-0.80
260990009	23	-0.03	0.03	-0.35	0.02	-0.57
261630019	23	-0.02	0.10	-0.38	0.02	-0.85

Table S21. Summary of linear regression data for second order VOC sensitivities at Detroit sites in the 75% NOx cut model run ($S^2_{\text{VOC}} = \text{slope} \times S_{\text{VOC}} + \text{intercept}$).

Site	Hour	Intercept		Slope		Correlation Coefficient
		Value	Standard Error	Value	Standard Error	
261630001	0	-0.01	0.10	-0.10	0.04	0.11
261610008	0	-0.04	0.15	-0.11	0.07	0.14
260910007	0	-0.06	0.21	-0.15	0.09	0.12
261250001	0	0.08	0.10	-0.14	0.03	-0.01
261470005	0	0.01	0.05	-0.09	0.04	0.21
260991003	0	0.08	0.08	-0.14	0.03	-0.02
260990009	0	0.04	0.06	-0.14	0.03	0.02
261630019	0	0.05	0.09	-0.15	0.03	-0.02
261630001	1	-0.04	0.11	-0.06	0.05	0.21
261610008	1	-0.03	0.11	-0.06	0.06	0.13
260910007	1	-0.06	0.22	-0.13	0.11	0.12
261250001	1	0.06	0.09	-0.11	0.04	0.13
261470005	1	0.02	0.06	-0.10	0.04	0.18
260991003	1	0.08	0.08	-0.13	0.03	0.11
260990009	1	0.07	0.05	-0.16	0.02	-0.17
261630019	1	0.04	0.08	-0.12	0.03	0.07
261630001	2	0.03	0.09	-0.07	0.05	0.16
261610008	2	-0.01	0.10	-0.02	0.06	0.05
260910007	2	-0.11	0.15	-0.02	0.08	0.07
261250001	2	0.02	0.09	-0.06	0.05	0.18
261470005	2	0.06	0.05	-0.15	0.03	0.03
260991003	2	0.00	0.08	-0.03	0.05	0.26
260990009	2	0.09	0.06	-0.15	0.03	0.00
261630019	2	0.03	0.07	-0.09	0.03	0.16
261630001	3	0.08	0.09	-0.09	0.05	0.09
261610008	3	-0.04	0.10	0.03	0.06	0.02
260910007	3	-0.08	0.12	0.01	0.07	0.01
261250001	3	0.01	0.09	-0.02	0.06	0.12
261470005	3	0.06	0.05	-0.15	0.03	0.09
260991003	3	-0.01	0.08	0.01	0.06	0.17
260990009	3	0.01	0.08	-0.03	0.06	0.16
261630019	3	0.03	0.08	-0.06	0.04	0.14
261630001	4	0.10	0.10	-0.09	0.06	0.04
261610008	4	-0.05	0.10	0.05	0.07	-0.02
260910007	4	-0.02	0.12	-0.02	0.08	-0.06

261250001	4	0.03	0.09	0.02	0.07	0.04
261470005	4	0.02	0.05	-0.09	0.04	0.19
260991003	4	0.03	0.09	0.02	0.08	0.02
260990009	4	-0.04	0.09	0.05	0.07	0.07
261630019	4	0.11	0.09	-0.11	0.05	0.08
261630001	5	0.20	0.10	-0.10	0.07	0.11
261610008	5	0.02	0.10	0.03	0.08	-0.03
260910007	5	0.04	0.11	-0.09	0.07	-0.13
261250001	5	0.16	0.10	-0.03	0.09	0.04
261470005	5	-0.01	0.06	-0.02	0.05	0.06
260991003	5	0.15	0.09	-0.05	0.09	0.00
260990009	5	-0.02	0.09	0.04	0.07	-0.03
261630019	5	0.21	0.09	-0.15	0.06	0.09
261630001	6	0.47	0.10	-0.27	0.06	0.26
261610008	6	0.18	0.11	-0.09	0.07	0.13
260910007	6	0.12	0.09	-0.17	0.05	-0.18
261250001	6	0.36	0.11	-0.14	0.07	0.22
261470005	6	0.01	0.07	-0.04	0.05	-0.23
260991003	6	0.29	0.11	-0.09	0.08	0.21
260990009	6	0.05	0.10	-0.02	0.07	0.05
261630019	6	0.37	0.11	-0.18	0.06	0.25
261630001	7	0.66	0.14	-0.29	0.06	0.34
261610008	7	0.36	0.12	-0.20	0.05	0.27
260910007	7	0.23	0.09	-0.22	0.04	-0.13
261250001	7	0.53	0.13	-0.23	0.05	0.21
261470005	7	0.08	0.09	-0.14	0.05	-0.43
260991003	7	0.34	0.12	-0.16	0.05	0.11
260990009	7	0.14	0.11	-0.14	0.05	-0.10
261630019	7	0.47	0.15	-0.20	0.06	0.31
261630001	8	0.64	0.14	-0.29	0.04	0.17
261610008	8	0.38	0.11	-0.23	0.03	0.14
260910007	8	0.28	0.09	-0.23	0.03	-0.15
261250001	8	0.55	0.15	-0.31	0.04	-0.01
261470005	8	0.20	0.10	-0.23	0.04	-0.36
260991003	8	0.38	0.12	-0.27	0.03	-0.24
260990009	8	0.32	0.14	-0.28	0.04	-0.51
261630019	8	0.47	0.15	-0.28	0.04	-0.02
261630001	9	0.53	0.16	-0.30	0.03	-0.16
261610008	9	0.55	0.17	-0.32	0.04	-0.45
260910007	9	0.27	0.12	-0.23	0.04	-0.36

261250001	9	0.58	0.22	-0.35	0.05	-0.25
261470005	9	0.26	0.10	-0.26	0.03	-0.23
260991003	9	0.27	0.12	-0.27	0.03	-0.27
260990009	9	0.50	0.14	-0.38	0.04	-0.68
261630019	9	0.43	0.16	-0.35	0.03	-0.51
261630001	10	0.22	0.29	-0.26	0.05	-0.65
261610008	10	1.44	0.37	-0.57	0.06	-0.70
260910007	10	0.21	0.16	-0.21	0.04	-0.62
261250001	10	0.64	0.30	-0.33	0.05	-0.30
261470005	10	0.18	0.06	-0.24	0.02	-0.48
260991003	10	0.20	0.15	-0.23	0.03	-0.25
260990009	10	0.20	0.09	-0.21	0.02	-0.54
261630019	10	0.39	0.21	-0.33	0.03	-0.70
261630001	11	0.27	0.34	-0.26	0.05	-0.81
261610008	11	0.92	0.33	-0.42	0.05	-0.76
260910007	11	0.16	0.17	-0.19	0.04	-0.56
261250001	11	0.59	0.28	-0.25	0.04	-0.18
261470005	11	0.10	0.07	-0.18	0.02	-0.50
260991003	11	0.19	0.15	-0.20	0.02	-0.52
260990009	11	0.10	0.11	-0.15	0.02	-0.74
261630019	11	0.21	0.20	-0.24	0.03	-0.79
261630001	12	0.14	0.25	-0.20	0.04	-0.80
261610008	12	0.40	0.26	-0.26	0.03	-0.84
260910007	12	0.08	0.19	-0.16	0.05	-0.39
261250001	12	0.63	0.20	-0.24	0.02	-0.49
261470005	12	0.12	0.07	-0.19	0.02	-0.64
260991003	12	0.27	0.22	-0.21	0.03	-0.87
260990009	12	0.19	0.13	-0.17	0.02	-0.73
261630019	12	0.16	0.21	-0.18	0.02	-0.79
261630001	13	0.20	0.20	-0.18	0.03	-0.80
261610008	13	0.27	0.18	-0.19	0.02	-0.80
260910007	13	-0.10	0.20	-0.08	0.05	-0.11
261250001	13	0.63	0.19	-0.24	0.02	-0.78
261470005	13	0.09	0.06	-0.14	0.02	-0.46
260991003	13	0.13	0.18	-0.16	0.02	-0.74
260990009	13	0.20	0.15	-0.15	0.03	-0.69
261630019	13	0.28	0.20	-0.18	0.02	-0.78
261630001	14	0.66	0.25	-0.29	0.03	-0.85
261610008	14	0.34	0.13	-0.19	0.02	-0.75
260910007	14	-0.12	0.20	-0.06	0.06	0.05

261250001	14	0.46	0.17	-0.21	0.02	-0.73
261470005	14	0.07	0.06	-0.10	0.02	-0.17
260991003	14	0.13	0.17	-0.14	0.02	-0.62
260990009	14	0.15	0.14	-0.13	0.02	-0.60
261630019	14	0.37	0.18	-0.20	0.02	-0.78
261630001	15	1.02	0.30	-0.41	0.04	-0.88
261610008	15	0.51	0.13	-0.24	0.02	-0.75
260910007	15	-0.08	0.20	-0.07	0.06	0.10
261250001	15	0.26	0.17	-0.17	0.02	-0.51
261470005	15	0.08	0.07	-0.09	0.02	-0.04
260991003	15	0.13	0.17	-0.14	0.03	-0.43
260990009	15	0.12	0.13	-0.13	0.02	-0.60
261630019	15	0.36	0.16	-0.21	0.02	-0.69
261630001	16	0.76	0.25	-0.36	0.05	-0.82
261610008	16	0.76	0.18	-0.34	0.03	-0.79
260910007	16	0.03	0.19	-0.13	0.06	0.08
261250001	16	0.13	0.16	-0.14	0.03	-0.38
261470005	16	0.07	0.07	-0.10	0.02	-0.29
260991003	16	0.14	0.16	-0.15	0.03	-0.31
260990009	16	0.15	0.12	-0.15	0.02	-0.55
261630019	16	0.34	0.14	-0.20	0.02	-0.47
261630001	17	0.35	0.14	-0.23	0.03	-0.47
261610008	17	0.65	0.18	-0.33	0.03	-0.80
260910007	17	0.22	0.14	-0.21	0.04	-0.13
261250001	17	0.10	0.16	-0.14	0.03	-0.38
261470005	17	0.03	0.05	-0.11	0.02	-0.37
260991003	17	0.11	0.16	-0.15	0.03	-0.36
260990009	17	0.23	0.11	-0.19	0.03	-0.57
261630019	17	0.27	0.12	-0.17	0.02	-0.40
261630001	18	0.06	0.12	-0.12	0.04	-0.10
261610008	18	0.32	0.12	-0.23	0.03	-0.65
260910007	18	0.42	0.10	-0.29	0.02	-0.64
261250001	18	0.03	0.19	-0.13	0.05	-0.32
261470005	18	0.05	0.05	-0.14	0.02	-0.32
260991003	18	0.04	0.12	-0.12	0.03	-0.30
260990009	18	0.19	0.09	-0.19	0.03	-0.60
261630019	18	0.19	0.11	-0.13	0.03	-0.25
261630001	19	-0.03	0.11	-0.07	0.04	0.06
261610008	19	0.01	0.20	-0.16	0.06	-0.32
260910007	19	0.51	0.13	-0.36	0.03	-0.83

261250001	19	-0.03	0.16	-0.10	0.05	-0.21
261470005	19	0.08	0.06	-0.16	0.03	-0.25
260991003	19	0.05	0.10	-0.10	0.03	-0.11
260990009	19	0.11	0.07	-0.15	0.02	-0.53
261630019	19	0.14	0.09	-0.12	0.03	-0.04
261630001	20	-0.04	0.09	-0.06	0.04	0.10
261610008	20	-0.17	0.22	-0.08	0.08	-0.14
260910007	20	0.28	0.15	-0.30	0.04	-0.77
261250001	20	0.00	0.11	-0.08	0.05	-0.02
261470005	20	0.04	0.06	-0.11	0.04	-0.11
260991003	20	0.08	0.09	-0.09	0.04	0.04
260990009	20	0.09	0.05	-0.13	0.02	-0.35
261630019	20	0.13	0.08	-0.13	0.02	-0.08
261630001	21	0.05	0.07	-0.11	0.02	0.10
261610008	21	-0.09	0.13	-0.07	0.06	-0.10
260910007	21	-0.05	0.14	-0.13	0.05	-0.34
261250001	21	0.01	0.10	-0.06	0.05	0.09
261470005	21	0.00	0.04	-0.08	0.03	0.12
260991003	21	0.11	0.08	-0.12	0.03	0.01
260990009	21	0.07	0.06	-0.11	0.03	-0.02
261630019	21	0.11	0.07	-0.14	0.02	-0.20
261630001	22	0.10	0.07	-0.15	0.01	-0.18
261610008	22	-0.01	0.09	-0.11	0.04	0.03
260910007	22	-0.12	0.14	-0.08	0.05	-0.02
261250001	22	0.03	0.12	-0.10	0.06	0.20
261470005	22	0.02	0.04	-0.13	0.02	-0.08
260991003	22	0.11	0.10	-0.14	0.04	0.02
260990009	22	0.02	0.07	-0.10	0.05	0.21
261630019	22	0.09	0.07	-0.14	0.01	-0.18
261630001	23	0.07	0.07	-0.14	0.02	-0.17
261610008	23	-0.02	0.12	-0.14	0.04	0.07
260910007	23	-0.11	0.14	-0.09	0.06	0.09
261250001	23	0.04	0.12	-0.13	0.04	0.11
261470005	23	0.01	0.04	-0.12	0.03	0.01
260991003	23	0.06	0.11	-0.14	0.04	0.06
260990009	23	-0.01	0.07	-0.08	0.05	0.24
261630019	23	0.08	0.07	-0.16	0.02	-0.18

Table S22. Summary of linear regression data for second order NOX/VOC interaction sensitivities at Detroit sites in the base model run ($S_{\text{NOXVOC}} = \text{slope1} \times S_{\text{NOX}} + \text{slope2} \times S_{\text{VOC}} + \text{intercept}$).

Site	Hour	Intercept		Slope1		Slope2		R ²
		Value	Standard Error	Value	Standard Error	Value	Standard Error	
261630001	0	0.40	0.20	0.08	0.02	2.06	0.06	0.95
261610008	0	0.67	0.24	0.11	0.02	1.87	0.10	0.86
260910007	0	0.31	0.23	0.12	0.02	1.64	0.10	0.85
261250001	0	0.52	0.21	0.15	0.02	2.19	0.06	0.95
261470005	0	0.22	0.11	0.10	0.01	1.45	0.07	0.89
260991003	0	0.34	0.19	0.08	0.02	2.03	0.06	0.96
260990009	0	0.37	0.14	0.06	0.02	1.62	0.07	0.90
261630019	0	-0.16	0.17	0.05	0.02	2.29	0.05	0.97
261630001	1	0.57	0.16	0.10	0.01	2.06	0.06	0.95
261610008	1	0.43	0.20	0.09	0.02	2.09	0.10	0.89
260910007	1	0.18	0.18	0.10	0.01	1.80	0.09	0.89
261250001	1	0.77	0.17	0.16	0.01	2.02	0.07	0.94
261470005	1	0.13	0.12	0.10	0.01	1.76	0.08	0.90
260991003	1	0.34	0.19	0.09	0.02	2.13	0.07	0.94
260990009	1	0.15	0.14	0.05	0.02	1.96	0.06	0.96
261630019	1	-0.04	0.17	0.04	0.02	2.27	0.06	0.96
261630001	2	0.85	0.16	0.11	0.01	2.00	0.06	0.95
261610008	2	0.44	0.19	0.09	0.02	2.17	0.09	0.91
260910007	2	0.19	0.14	0.09	0.01	1.88	0.08	0.92
261250001	2	0.82	0.17	0.14	0.01	2.01	0.07	0.93
261470005	2	0.03	0.13	0.09	0.02	2.08	0.07	0.94
260991003	2	0.52	0.20	0.09	0.02	2.01	0.09	0.90
260990009	2	0.10	0.13	0.06	0.02	2.07	0.07	0.95
261630019	2	0.00	0.17	0.05	0.02	2.34	0.07	0.95
261630001	3	1.20	0.33	0.13	0.02	1.92	0.11	0.85
261610008	3	0.57	0.22	0.09	0.02	2.13	0.09	0.90
260910007	3	0.27	0.13	0.09	0.01	1.83	0.08	0.91
261250001	3	0.79	0.24	0.11	0.02	2.08	0.09	0.91
261470005	3	0.14	0.13	0.09	0.02	2.08	0.08	0.92
260991003	3	0.44	0.22	0.07	0.02	2.06	0.10	0.89
260990009	3	0.18	0.12	0.05	0.01	1.95	0.09	0.90
261630019	3	0.25	0.16	0.07	0.01	2.23	0.07	0.95
261630001	4	-0.05	0.34	0.05	0.02	1.87	0.14	0.75

261610008	4	0.55	0.28	0.10	0.02	2.02	0.12	0.83
260910007	4	0.32	0.12	0.10	0.01	1.72	0.08	0.90
261250001	4	0.23	0.23	0.07	0.02	1.83	0.12	0.81
261470005	4	0.31	0.15	0.09	0.02	1.98	0.10	0.89
260991003	4	0.42	0.21	0.08	0.02	1.79	0.13	0.75
260990009	4	0.24	0.12	0.07	0.01	1.83	0.09	0.88
261630019	4	0.56	0.22	0.10	0.02	2.08	0.09	0.91
261630001	5	-0.03	0.17	0.08	0.01	1.67	0.10	0.84
261610008	5	0.28	0.21	0.10	0.02	1.60	0.13	0.74
260910007	5	0.20	0.12	0.11	0.02	1.59	0.07	0.90
261250001	5	0.01	0.18	0.07	0.02	1.39	0.13	0.67
261470005	5	0.35	0.13	0.12	0.02	1.78	0.09	0.89
260991003	5	0.18	0.18	0.08	0.02	1.32	0.14	0.59
260990009	5	0.23	0.12	0.09	0.01	1.53	0.09	0.83
261630019	5	0.45	0.21	0.13	0.02	2.01	0.09	0.91
261630001	6	0.00	0.22	0.14	0.02	1.50	0.10	0.80
261610008	6	-0.02	0.28	0.14	0.03	1.61	0.16	0.65
260910007	6	-0.30	0.11	0.12	0.02	1.60	0.06	0.93
261250001	6	-0.02	0.31	0.12	0.03	1.19	0.15	0.52
261470005	6	0.22	0.12	0.14	0.02	1.31	0.08	0.86
260991003	6	0.42	0.30	0.14	0.03	0.95	0.14	0.44
260990009	6	0.15	0.12	0.12	0.01	1.07	0.09	0.75
261630019	6	0.55	0.25	0.18	0.02	1.34	0.10	0.80
261630001	7	-0.61	0.50	0.18	0.05	1.48	0.17	0.57
261610008	7	-0.37	0.57	0.20	0.06	1.43	0.20	0.47
260910007	7	-1.16	0.24	0.16	0.03	1.62	0.10	0.84
261250001	7	0.47	0.60	0.23	0.05	1.06	0.15	0.48
261470005	7	0.05	0.14	0.15	0.02	0.93	0.07	0.79
260991003	7	1.10	0.42	0.24	0.04	0.77	0.13	0.43
260990009	7	0.23	0.13	0.15	0.02	0.60	0.07	0.67
261630019	7	0.81	0.30	0.27	0.03	0.79	0.10	0.68
261630001	8	-0.87	0.77	0.26	0.07	1.27	0.18	0.48
261610008	8	0.27	0.48	0.35	0.04	0.93	0.13	0.60
260910007	8	-1.55	0.32	0.24	0.03	1.37	0.10	0.79
261250001	8	0.74	0.85	0.33	0.07	0.91	0.15	0.45
261470005	8	-0.30	0.18	0.15	0.02	1.01	0.07	0.81
260991003	8	0.44	0.50	0.23	0.05	0.68	0.11	0.46
260990009	8	0.36	0.24	0.22	0.02	0.38	0.08	0.61
261630019	8	-0.27	0.44	0.32	0.04	1.00	0.13	0.60
261630001	9	-0.74	0.85	0.40	0.06	1.15	0.18	0.55

261610008	9	-0.15	0.48	0.37	0.03	0.79	0.12	0.70
260910007	9	-1.78	0.41	0.28	0.02	1.19	0.11	0.76
261250001	9	0.57	0.80	0.42	0.06	0.87	0.15	0.53
261470005	9	-1.53	0.46	0.11	0.04	1.88	0.15	0.73
260991003	9	0.46	0.48	0.28	0.04	0.62	0.09	0.59
260990009	9	0.42	0.31	0.25	0.02	0.28	0.08	0.65
261630019	9	-2.07	0.77	0.39	0.07	1.34	0.16	0.56
261630001	10	-0.44	0.81	0.43	0.05	0.93	0.15	0.62
261610008	10	-0.19	0.80	0.43	0.04	0.68	0.17	0.63
260910007	10	-2.79	0.58	0.32	0.03	1.31	0.14	0.70
261250001	10	1.06	0.74	0.44	0.05	0.70	0.14	0.59
261470005	10	-1.07	0.32	0.13	0.03	1.50	0.08	0.86
260991003	10	0.78	0.48	0.34	0.03	0.61	0.09	0.66
260990009	10	-0.06	0.40	0.21	0.03	0.56	0.09	0.52
261630019	10	-2.78	0.94	0.48	0.07	1.35	0.16	0.56
261630001	11	-0.80	0.91	0.43	0.05	0.93	0.16	0.57
261610008	11	-2.03	1.03	0.41	0.05	0.99	0.18	0.50
260910007	11	-3.45	0.81	0.34	0.04	1.49	0.16	0.63
261250001	11	0.87	0.80	0.41	0.04	0.73	0.13	0.60
261470005	11	-1.38	0.56	0.22	0.04	1.36	0.13	0.67
260991003	11	0.64	0.60	0.38	0.03	0.69	0.11	0.66
260990009	11	-0.85	0.45	0.21	0.03	0.91	0.08	0.69
261630019	11	-4.05	1.16	0.61	0.08	1.57	0.17	0.60
261630001	12	-0.78	0.91	0.44	0.05	0.89	0.15	0.61
261610008	12	-6.43	1.67	0.51	0.09	1.96	0.26	0.48
260910007	12	-3.83	0.90	0.34	0.04	1.66	0.17	0.63
261250001	12	1.10	0.95	0.42	0.05	0.72	0.15	0.55
261470005	12	-1.28	0.44	0.22	0.03	1.27	0.09	0.77
260991003	12	0.80	0.63	0.39	0.03	0.74	0.10	0.69
260990009	12	-1.56	0.63	0.20	0.04	1.30	0.10	0.75
261630019	12	-6.16	1.39	0.68	0.09	1.98	0.18	0.67
261630001	13	0.33	0.96	0.37	0.05	0.69	0.16	0.47
261610008	13	-7.48	1.76	0.55	0.09	2.30	0.26	0.57
260910007	13	-3.77	0.79	0.32	0.04	1.66	0.16	0.68
261250001	13	2.52	1.04	0.33	0.05	0.44	0.16	0.45
261470005	13	-1.36	0.42	0.23	0.03	1.28	0.09	0.80
260991003	13	1.06	0.50	0.30	0.03	0.70	0.08	0.69
260990009	13	-1.78	0.79	0.19	0.05	1.45	0.12	0.73
261630019	13	-5.87	1.45	0.65	0.09	2.02	0.19	0.67
261630001	14	2.29	0.88	0.31	0.05	0.32	0.16	0.49

261610008	14	-5.29	1.39	0.48	0.08	1.98	0.21	0.60
260910007	14	-3.23	0.50	0.27	0.02	1.75	0.10	0.85
261250001	14	2.22	1.02	0.37	0.05	0.53	0.18	0.48
261470005	14	-0.85	0.27	0.16	0.02	1.46	0.07	0.91
260991003	14	0.50	0.48	0.28	0.03	0.85	0.08	0.71
260990009	14	-1.51	0.74	0.19	0.04	1.34	0.11	0.73
261630019	14	-2.86	1.16	0.52	0.07	1.50	0.16	0.62
261630001	15	3.06	0.71	0.26	0.04	0.11	0.14	0.56
261610008	15	-1.44	0.98	0.36	0.06	1.21	0.16	0.49
260910007	15	-2.76	0.61	0.27	0.03	1.64	0.12	0.77
261250001	15	1.15	1.09	0.42	0.06	0.81	0.21	0.48
261470005	15	-0.57	0.23	0.13	0.02	1.53	0.05	0.93
260991003	15	-0.37	0.52	0.31	0.03	1.16	0.09	0.76
260990009	15	-1.53	0.59	0.20	0.04	1.28	0.10	0.76
261630019	15	-0.46	0.89	0.40	0.05	1.05	0.14	0.56
261630001	16	2.40	0.57	0.26	0.03	0.33	0.12	0.54
261610008	16	0.58	0.86	0.34	0.06	0.79	0.16	0.35
260910007	16	-3.28	0.56	0.28	0.03	1.91	0.11	0.84
261250001	16	0.72	0.75	0.32	0.04	0.91	0.16	0.52
261470005	16	-0.62	0.34	0.14	0.03	1.54	0.07	0.90
260991003	16	-0.05	0.67	0.36	0.03	1.28	0.14	0.70
260990009	16	-1.32	0.49	0.24	0.03	1.20	0.10	0.72
261630019	16	0.34	0.79	0.36	0.04	0.88	0.14	0.56
261630001	17	1.98	0.47	0.22	0.02	0.72	0.11	0.66
261610008	17	1.70	0.69	0.29	0.05	0.76	0.16	0.40
260910007	17	-2.56	0.36	0.22	0.02	1.98	0.07	0.93
261250001	17	1.74	0.54	0.24	0.03	0.84	0.12	0.62
261470005	17	-0.53	0.29	0.14	0.03	1.59	0.07	0.90
260991003	17	0.92	0.74	0.24	0.04	1.13	0.16	0.50
260990009	17	-0.34	0.59	0.29	0.04	0.97	0.16	0.50
261630019	17	1.27	0.57	0.31	0.03	0.78	0.12	0.68
261630001	18	2.16	0.51	0.22	0.02	1.09	0.15	0.69
261610008	18	2.12	0.68	0.33	0.04	1.20	0.19	0.57
260910007	18	-1.27	0.35	0.24	0.02	1.36	0.06	0.89
261250001	18	2.40	0.56	0.22	0.03	1.08	0.14	0.59
261470005	18	0.19	0.17	0.12	0.02	1.18	0.06	0.85
260991003	18	1.89	0.45	0.19	0.03	1.18	0.11	0.68
260990009	18	0.12	0.54	0.31	0.04	1.12	0.19	0.47
261630019	18	1.12	0.32	0.19	0.02	0.99	0.09	0.76
261630001	19	1.77	0.42	0.18	0.02	1.40	0.13	0.77

261610008	19	2.23	0.47	0.27	0.02	1.41	0.15	0.72
260910007	19	-0.84	0.55	0.30	0.04	1.05	0.11	0.64
261250001	19	2.07	0.65	0.17	0.03	1.23	0.19	0.45
261470005	19	0.40	0.12	0.12	0.02	1.03	0.06	0.85
260991003	19	1.63	0.45	0.16	0.03	1.42	0.14	0.64
260990009	19	0.16	0.28	0.21	0.02	1.44	0.12	0.72
261630019	19	0.56	0.22	0.11	0.01	1.32	0.06	0.88
261630001	20	1.02	0.52	0.15	0.02	1.76	0.18	0.71
261610008	20	1.71	0.38	0.18	0.02	1.48	0.14	0.73
260910007	20	-0.87	0.47	0.28	0.03	1.35	0.12	0.70
261250001	20	2.89	1.01	0.22	0.06	1.25	0.36	0.25
261470005	20	0.28	0.10	0.13	0.01	1.16	0.06	0.89
260991003	20	1.38	0.42	0.16	0.03	1.78	0.16	0.69
260990009	20	0.29	0.15	0.14	0.01	1.50	0.08	0.86
261630019	20	0.19	0.26	0.13	0.02	1.69	0.08	0.89
261630001	21	1.07	0.35	0.16	0.02	1.83	0.09	0.88
261610008	21	1.07	0.37	0.15	0.02	1.74	0.15	0.74
260910007	21	-0.32	0.21	0.18	0.02	1.58	0.07	0.90
261250001	21	0.89	1.04	0.16	0.06	1.82	0.41	0.27
261470005	21	0.17	0.10	0.12	0.01	1.28	0.06	0.90
260991003	21	0.83	0.38	0.12	0.03	1.88	0.15	0.74
260990009	21	0.41	0.10	0.09	0.01	1.39	0.07	0.88
261630019	21	-0.45	0.43	0.16	0.03	2.09	0.11	0.86
261630001	22	0.35	0.31	0.12	0.02	2.06	0.06	0.95
261610008	22	0.79	0.33	0.13	0.02	1.80	0.12	0.81
260910007	22	0.29	0.20	0.13	0.01	1.50	0.07	0.89
261250001	22	1.55	0.61	0.20	0.04	1.58	0.26	0.48
261470005	22	0.23	0.13	0.13	0.02	1.13	0.06	0.85
260991003	22	0.98	0.34	0.11	0.03	1.59	0.14	0.68
260990009	22	0.38	0.10	0.07	0.01	1.43	0.08	0.85
261630019	22	-0.10	0.32	0.15	0.03	1.94	0.08	0.92
261630001	23	0.31	0.23	0.09	0.02	2.11	0.05	0.97
261610008	23	0.66	0.28	0.12	0.02	1.87	0.09	0.89
260910007	23	0.42	0.24	0.13	0.02	1.52	0.10	0.84
261250001	23	0.51	0.31	0.14	0.03	2.05	0.11	0.87
261470005	23	0.26	0.13	0.10	0.02	1.23	0.07	0.83
260991003	23	0.81	0.23	0.08	0.02	1.61	0.09	0.86
260990009	23	0.36	0.13	0.06	0.01	1.51	0.10	0.79
261630019	23	-0.19	0.19	0.10	0.02	2.13	0.04	0.98

Table S23. Summary of linear regression data for second order NOX/VOC interaction sensitivities at Detroit sites in the 50% NOx cut model run ($S_{NOXVOC} = \text{slope1} \times S_{NOX} + \text{slope2} \times S_{VOC} + \text{intercept}$).

Site	Hour	Intercept		Slope1		Slope2		R ²
		Value	Standard Error	Value	Standard Error	Value	Standard Error	
261630001	0	0.82	0.10	0.15	0.01	1.66	0.13	0.84
261610008	0	0.84	0.11	0.14	0.01	1.62	0.17	0.74
260910007	0	0.40	0.12	0.16	0.01	1.70	0.16	0.80
261250001	0	0.78	0.10	0.16	0.01	1.65	0.09	0.88
261470005	0	0.26	0.08	0.15	0.01	1.70	0.13	0.83
260991003	0	0.80	0.09	0.15	0.02	1.67	0.10	0.87
260990009	0	0.49	0.09	0.13	0.02	1.56	0.13	0.77
261630019	0	0.50	0.13	0.16	0.02	1.55	0.12	0.86
261630001	1	0.81	0.09	0.16	0.01	1.90	0.15	0.83
261610008	1	0.83	0.10	0.15	0.01	1.69	0.23	0.69
260910007	1	0.43	0.11	0.16	0.01	1.68	0.17	0.80
261250001	1	0.75	0.09	0.18	0.01	1.74	0.13	0.83
261470005	1	0.30	0.08	0.15	0.01	1.64	0.17	0.78
260991003	1	0.81	0.09	0.16	0.01	1.63	0.12	0.84
260990009	1	0.47	0.09	0.13	0.02	1.57	0.10	0.87
261630019	1	0.50	0.12	0.17	0.02	1.52	0.13	0.84
261630001	2	0.96	0.08	0.17	0.01	1.94	0.16	0.84
261610008	2	0.88	0.09	0.16	0.02	1.75	0.25	0.71
260910007	2	0.43	0.10	0.16	0.01	1.81	0.18	0.79
261250001	2	0.84	0.08	0.19	0.01	1.88	0.18	0.81
261470005	2	0.35	0.09	0.15	0.01	1.47	0.14	0.80
260991003	2	0.88	0.09	0.16	0.01	1.74	0.20	0.76
260990009	2	0.49	0.09	0.13	0.02	1.55	0.13	0.80
261630019	2	0.55	0.10	0.18	0.02	1.69	0.14	0.84
261630001	3	1.26	0.11	0.16	0.01	1.95	0.18	0.78
261610008	3	1.06	0.10	0.16	0.02	1.92	0.27	0.68
260910007	3	0.43	0.10	0.17	0.01	1.97	0.17	0.79
261250001	3	1.19	0.12	0.17	0.02	1.84	0.25	0.71
261470005	3	0.44	0.08	0.17	0.02	1.40	0.15	0.80
260991003	3	1.11	0.13	0.14	0.02	1.67	0.27	0.63
260990009	3	0.55	0.09	0.13	0.02	1.74	0.24	0.65
261630019	3	0.78	0.09	0.18	0.01	1.97	0.17	0.82
261630001	4	1.16	0.19	0.12	0.02	1.87	0.24	0.63
261610008	4	1.08	0.14	0.13	0.02	1.99	0.26	0.63
260910007	4	0.42	0.09	0.17	0.01	2.00	0.16	0.80

261250001	4	1.11	0.20	0.12	0.02	1.65	0.29	0.53
261470005	4	0.57	0.07	0.16	0.01	1.67	0.20	0.78
260991003	4	1.00	0.19	0.09	0.02	1.38	0.28	0.44
260990009	4	0.57	0.09	0.12	0.02	1.98	0.24	0.63
261630019	4	1.01	0.12	0.16	0.01	1.92	0.19	0.76
261630001	5	0.61	0.21	0.13	0.02	1.53	0.22	0.59
261610008	5	0.56	0.17	0.13	0.02	1.66	0.22	0.59
260910007	5	0.19	0.08	0.18	0.01	1.88	0.13	0.85
261250001	5	0.62	0.25	0.11	0.02	1.07	0.23	0.41
261470005	5	0.46	0.07	0.15	0.01	1.55	0.17	0.79
260991003	5	0.71	0.21	0.11	0.02	0.80	0.20	0.38
260990009	5	0.38	0.09	0.13	0.02	1.38	0.17	0.62
261630019	5	0.86	0.16	0.19	0.02	1.49	0.19	0.71
261630001	6	0.45	0.34	0.25	0.03	1.31	0.22	0.57
261610008	6	0.42	0.23	0.18	0.03	0.83	0.20	0.47
260910007	6	-0.35	0.10	0.20	0.01	1.79	0.11	0.88
261250001	6	1.01	0.36	0.21	0.03	0.44	0.19	0.41
261470005	6	0.22	0.09	0.15	0.02	0.89	0.12	0.71
260991003	6	1.10	0.27	0.19	0.03	0.21	0.15	0.42
260990009	6	0.23	0.10	0.14	0.02	0.53	0.11	0.53
261630019	6	0.69	0.20	0.25	0.02	0.59	0.15	0.64
261630001	7	0.52	0.57	0.33	0.06	0.69	0.24	0.36
261610008	7	0.22	0.38	0.28	0.04	0.65	0.19	0.47
260910007	7	-1.08	0.20	0.24	0.02	1.65	0.14	0.79
261250001	7	1.42	0.49	0.35	0.05	0.34	0.15	0.49
261470005	7	-0.02	0.11	0.15	0.02	0.83	0.10	0.71
260991003	7	1.17	0.28	0.28	0.04	0.18	0.10	0.50
260990009	7	0.20	0.13	0.16	0.02	0.20	0.07	0.50
261630019	7	0.28	0.33	0.34	0.04	0.42	0.15	0.54
261630001	8	0.53	0.55	0.38	0.05	0.38	0.17	0.50
261610008	8	-0.22	0.40	0.35	0.04	0.55	0.14	0.61
260910007	8	-1.48	0.31	0.30	0.03	1.25	0.14	0.72
261250001	8	0.86	0.48	0.38	0.04	0.38	0.13	0.64
261470005	8	-0.76	0.28	0.19	0.04	1.55	0.18	0.67
260991003	8	0.66	0.32	0.32	0.03	0.33	0.10	0.63
260990009	8	0.09	0.17	0.19	0.02	0.24	0.06	0.58
261630019	8	-0.34	0.58	0.44	0.06	0.51	0.17	0.44
261630001	9	-0.29	0.58	0.40	0.04	0.51	0.15	0.63
261610008	9	-0.41	0.49	0.37	0.04	0.44	0.13	0.65
260910007	9	-1.53	0.35	0.31	0.03	1.00	0.12	0.71

261250001	9	-0.10	0.48	0.38	0.03	0.59	0.12	0.68
261470005	9	-1.56	0.37	0.27	0.04	1.81	0.21	0.71
260991003	9	-0.12	0.35	0.30	0.03	0.62	0.10	0.71
260990009	9	-0.27	0.22	0.19	0.02	0.60	0.06	0.68
261630019	9	-1.06	0.71	0.48	0.06	0.69	0.16	0.50
261630001	10	-0.78	0.60	0.37	0.04	0.62	0.12	0.62
261610008	10	-2.29	0.62	0.40	0.04	1.00	0.12	0.61
260910007	10	-1.41	0.52	0.29	0.04	0.92	0.14	0.54
261250001	10	-0.93	0.52	0.37	0.04	0.91	0.10	0.68
261470005	10	-1.67	0.42	0.25	0.04	1.97	0.17	0.76
260991003	10	-1.15	0.44	0.34	0.03	1.01	0.10	0.73
260990009	10	-1.39	0.46	0.25	0.04	1.30	0.12	0.69
261630019	10	-1.97	0.70	0.44	0.05	1.02	0.13	0.60
261630001	11	-1.44	0.70	0.36	0.04	0.91	0.12	0.55
261610008	11	-7.59	1.50	0.66	0.09	2.40	0.24	0.64
260910007	11	-1.58	0.45	0.28	0.03	1.08	0.11	0.69
261250001	11	-2.11	0.71	0.41	0.05	1.33	0.13	0.69
261470005	11	-1.23	0.34	0.23	0.03	1.48	0.15	0.74
260991003	11	-1.56	0.63	0.37	0.04	1.13	0.12	0.64
260990009	11	-1.21	0.36	0.25	0.03	1.00	0.09	0.74
261630019	11	-2.60	0.71	0.38	0.05	1.41	0.11	0.73
261630001	12	-2.46	0.64	0.36	0.04	1.40	0.10	0.75
261610008	12	-6.67	1.36	0.64	0.08	2.16	0.21	0.65
260910007	12	-1.44	0.32	0.25	0.02	1.46	0.08	0.86
261250001	12	-2.99	0.97	0.45	0.06	1.56	0.15	0.65
261470005	12	-0.50	0.15	0.16	0.01	1.27	0.06	0.91
260991003	12	-1.19	0.73	0.33	0.05	1.05	0.13	0.56
260990009	12	-0.96	0.29	0.19	0.02	1.60	0.07	0.91
261630019	12	-2.91	0.76	0.39	0.05	1.61	0.12	0.77
261630001	13	-2.93	0.88	0.34	0.06	1.90	0.15	0.74
261610008	13	-4.54	0.96	0.48	0.06	1.90	0.15	0.74
260910007	13	-1.05	0.26	0.21	0.02	1.75	0.08	0.90
261250001	13	-2.93	0.70	0.33	0.05	1.95	0.11	0.85
261470005	13	-0.30	0.13	0.14	0.01	1.46	0.07	0.93
260991003	13	-1.06	0.56	0.27	0.04	1.18	0.11	0.67
260990009	13	-0.64	0.21	0.15	0.02	1.70	0.05	0.95
261630019	13	-2.30	0.71	0.32	0.05	1.59	0.11	0.78
261630001	14	-2.40	0.94	0.34	0.06	1.83	0.15	0.71
261610008	14	-3.66	0.67	0.40	0.04	2.14	0.10	0.88
260910007	14	-0.90	0.23	0.19	0.02	1.69	0.09	0.88

261250001	14	-2.70	0.58	0.30	0.04	2.07	0.11	0.87
261470005	14	-0.27	0.12	0.14	0.01	1.38	0.09	0.92
260991003	14	-0.85	0.50	0.28	0.03	1.09	0.11	0.66
260990009	14	-0.61	0.26	0.18	0.02	1.26	0.07	0.88
261630019	14	-1.74	0.59	0.27	0.04	1.56	0.10	0.81
261630001	15	-0.63	0.67	0.26	0.05	1.25	0.12	0.65
261610008	15	-2.69	0.55	0.31	0.04	2.36	0.09	0.93
260910007	15	-0.84	0.22	0.19	0.02	1.54	0.10	0.86
261250001	15	-2.19	0.57	0.31	0.03	1.88	0.13	0.77
261470005	15	-0.20	0.12	0.14	0.01	1.40	0.09	0.91
260991003	15	-0.66	0.41	0.28	0.03	1.05	0.11	0.70
260990009	15	-0.43	0.36	0.17	0.03	1.18	0.09	0.77
261630019	15	-1.68	0.45	0.26	0.03	1.61	0.09	0.85
261630001	16	0.60	0.45	0.20	0.03	0.71	0.11	0.46
261610008	16	-1.72	0.34	0.26	0.03	2.13	0.06	0.96
260910007	16	-0.99	0.22	0.20	0.02	1.53	0.10	0.86
261250001	16	-1.03	0.43	0.27	0.03	1.48	0.13	0.72
261470005	16	-0.14	0.13	0.15	0.01	1.44	0.08	0.92
260991003	16	-0.38	0.37	0.26	0.02	1.02	0.12	0.70
260990009	16	-0.17	0.34	0.15	0.03	1.26	0.10	0.75
261630019	16	-1.87	0.41	0.28	0.03	1.65	0.10	0.84
261630001	17	0.76	0.24	0.18	0.02	0.74	0.09	0.65
261610008	17	-0.14	0.17	0.22	0.02	1.28	0.05	0.91
260910007	17	-1.47	0.29	0.24	0.02	1.73	0.11	0.86
261250001	17	0.61	0.27	0.19	0.02	0.89	0.11	0.66
261470005	17	0.00	0.13	0.14	0.02	1.51	0.08	0.91
260991003	17	0.29	0.26	0.18	0.02	1.07	0.10	0.71
260990009	17	-0.13	0.25	0.17	0.02	1.20	0.09	0.77
261630019	17	-1.14	0.38	0.27	0.03	1.49	0.11	0.76
261630001	18	0.98	0.16	0.18	0.01	0.89	0.10	0.74
261610008	18	0.51	0.21	0.22	0.02	1.06	0.11	0.70
260910007	18	-1.62	0.36	0.25	0.03	2.16	0.10	0.90
261250001	18	1.38	0.20	0.16	0.02	0.69	0.09	0.64
261470005	18	0.18	0.10	0.14	0.01	1.55	0.07	0.91
260991003	18	0.84	0.15	0.15	0.01	1.05	0.07	0.79
260990009	18	0.05	0.17	0.16	0.02	1.14	0.07	0.80
261630019	18	0.04	0.21	0.20	0.02	1.18	0.10	0.77
261630001	19	1.17	0.14	0.16	0.01	1.07	0.13	0.74
261610008	19	0.78	0.17	0.22	0.02	1.19	0.12	0.73
260910007	19	-0.78	0.23	0.20	0.02	1.82	0.06	0.95

261250001	19	1.48	0.18	0.15	0.02	0.85	0.10	0.64
261470005	19	0.29	0.10	0.14	0.02	1.25	0.09	0.82
260991003	19	1.23	0.15	0.15	0.02	1.06	0.10	0.69
260990009	19	0.21	0.09	0.15	0.01	1.26	0.06	0.90
261630019	19	0.43	0.13	0.16	0.01	1.25	0.09	0.83
261630001	20	1.21	0.14	0.16	0.01	1.25	0.15	0.72
261610008	20	0.97	0.16	0.19	0.02	1.27	0.16	0.67
260910007	20	-0.27	0.16	0.20	0.01	1.18	0.05	0.89
261250001	20	1.29	0.16	0.15	0.02	1.21	0.14	0.63
261470005	20	0.29	0.09	0.14	0.01	0.97	0.11	0.76
260991003	20	1.15	0.14	0.13	0.02	1.33	0.14	0.66
260990009	20	0.35	0.07	0.13	0.01	1.39	0.07	0.87
261630019	20	0.51	0.12	0.15	0.01	1.40	0.10	0.85
261630001	21	1.09	0.14	0.17	0.01	1.52	0.13	0.83
261610008	21	1.01	0.14	0.15	0.02	1.24	0.18	0.63
260910007	21	-0.14	0.17	0.20	0.02	1.15	0.11	0.76
261250001	21	1.14	0.14	0.14	0.02	1.37	0.17	0.61
261470005	21	0.25	0.08	0.15	0.01	1.71	0.11	0.86
260991003	21	1.05	0.13	0.13	0.02	1.50	0.14	0.69
260990009	21	0.45	0.08	0.12	0.01	1.49	0.10	0.79
261630019	21	0.49	0.11	0.16	0.01	1.45	0.08	0.90
261630001	22	0.92	0.12	0.16	0.01	1.64	0.09	0.91
261610008	22	0.90	0.13	0.14	0.01	1.52	0.17	0.71
260910007	22	0.08	0.13	0.18	0.01	1.64	0.14	0.82
261250001	22	0.92	0.13	0.16	0.02	1.69	0.18	0.67
261470005	22	0.25	0.08	0.15	0.01	1.61	0.08	0.91
260991003	22	0.94	0.11	0.14	0.02	1.62	0.13	0.74
260990009	22	0.48	0.08	0.12	0.01	1.77	0.15	0.72
261630019	22	0.45	0.11	0.16	0.01	1.56	0.08	0.92
261630001	23	0.85	0.11	0.15	0.01	1.63	0.09	0.90
261610008	23	0.87	0.12	0.14	0.01	1.62	0.13	0.80
260910007	23	0.32	0.13	0.17	0.01	1.70	0.16	0.79
261250001	23	0.81	0.11	0.16	0.01	1.75	0.11	0.84
261470005	23	0.24	0.07	0.15	0.01	1.54	0.09	0.88
260991003	23	0.86	0.10	0.15	0.02	1.67	0.11	0.82
260990009	23	0.50	0.09	0.12	0.02	1.70	0.19	0.63
261630019	23	0.48	0.13	0.16	0.02	1.64	0.09	0.90

Table S24. Summary of linear regression data for second order NOX/VOC interaction sensitivities at Detroit sites in the 75% NOx cut model run ($S_{NOXVOC} = \text{slope1} \times S_{NOX} + \text{slope2} \times S_{VOC} + \text{intercept}$).

Site	Hour	Intercept		Slope1		Slope2		R ²
		Value	Standard Error	Value	Standard Error	Value	Standard Error	
261630001	0	0.53	0.10	0.14	0.02	0.38	0.23	0.51
261610008	0	0.45	0.10	0.07	0.02	-0.30	0.26	0.37
260910007	0	0.29	0.11	0.10	0.02	-0.02	0.24	0.46
261250001	0	0.63	0.11	0.18	0.02	0.87	0.22	0.52
261470005	0	0.14	0.08	0.13	0.03	0.28	0.26	0.48
260991003	0	0.62	0.10	0.19	0.02	0.87	0.22	0.54
260990009	0	0.25	0.09	0.13	0.02	0.27	0.20	0.42
261630019	0	0.25	0.11	0.18	0.02	0.53	0.18	0.67
261630001	1	0.47	0.09	0.11	0.02	0.11	0.24	0.49
261610008	1	0.31	0.09	0.04	0.02	-0.61	0.25	0.44
260910007	1	0.26	0.11	0.11	0.02	0.01	0.26	0.46
261250001	1	0.53	0.10	0.14	0.03	0.40	0.25	0.44
261470005	1	0.13	0.07	0.09	0.02	-0.18	0.22	0.53
260991003	1	0.55	0.09	0.16	0.02	0.57	0.23	0.49
260990009	1	0.25	0.10	0.18	0.02	0.70	0.18	0.58
261630019	1	0.22	0.08	0.17	0.02	0.37	0.16	0.70
261630001	2	0.53	0.08	0.11	0.02	0.15	0.22	0.51
261610008	2	0.32	0.09	0.06	0.02	-0.50	0.24	0.45
260910007	2	0.25	0.11	0.12	0.03	0.14	0.29	0.44
261250001	2	0.45	0.08	0.10	0.03	-0.14	0.24	0.51
261470005	2	0.14	0.08	0.15	0.02	0.29	0.18	0.59
260991003	2	0.47	0.08	0.10	0.02	-0.08	0.23	0.50
260990009	2	0.25	0.09	0.15	0.02	0.44	0.21	0.50
261630019	2	0.28	0.07	0.16	0.02	0.36	0.17	0.68
261630001	3	0.67	0.09	0.10	0.02	0.04	0.22	0.47
261610008	3	0.40	0.09	0.05	0.03	-0.53	0.25	0.41
260910007	3	0.29	0.11	0.15	0.03	0.45	0.32	0.41
261250001	3	0.54	0.08	0.08	0.02	-0.35	0.22	0.56
261470005	3	0.16	0.07	0.16	0.02	0.25	0.17	0.66
260991003	3	0.53	0.08	0.07	0.02	-0.36	0.20	0.54
260990009	3	0.20	0.07	0.08	0.02	-0.38	0.20	0.50
261630019	3	0.46	0.07	0.14	0.02	0.37	0.20	0.57
261630001	4	0.82	0.10	0.08	0.02	-0.11	0.23	0.44
261610008	4	0.61	0.10	0.05	0.02	-0.38	0.26	0.34
260910007	4	0.35	0.11	0.19	0.04	0.87	0.35	0.41

261250001	4	0.72	0.09	0.06	0.02	-0.39	0.21	0.51
261470005	4	0.23	0.06	0.11	0.02	-0.16	0.21	0.64
260991003	4	0.69	0.09	0.06	0.02	-0.29	0.20	0.43
260990009	4	0.32	0.06	0.07	0.02	-0.35	0.23	0.44
261630019	4	0.67	0.08	0.13	0.02	0.46	0.23	0.48
261630001	5	0.81	0.11	0.12	0.02	0.12	0.21	0.51
261610008	5	0.71	0.08	0.10	0.02	0.12	0.21	0.42
260910007	5	0.25	0.10	0.24	0.03	1.35	0.32	0.49
261250001	5	0.86	0.09	0.11	0.02	-0.11	0.15	0.61
261470005	5	0.33	0.04	0.14	0.02	0.32	0.22	0.61
260991003	5	0.74	0.09	0.11	0.02	0.02	0.15	0.52
260990009	5	0.34	0.05	0.15	0.02	0.68	0.17	0.53
261630019	5	0.57	0.07	0.17	0.02	0.60	0.18	0.58
261630001	6	0.75	0.23	0.24	0.03	0.21	0.18	0.53
261610008	6	0.60	0.13	0.17	0.02	0.03	0.14	0.57
260910007	6	-0.11	0.11	0.25	0.03	1.19	0.22	0.60
261250001	6	0.98	0.17	0.20	0.02	-0.06	0.11	0.65
261470005	6	0.16	0.05	0.15	0.01	0.57	0.12	0.67
260991003	6	0.80	0.12	0.19	0.02	-0.03	0.08	0.69
260990009	6	0.14	0.07	0.15	0.02	0.24	0.08	0.57
261630019	6	0.35	0.13	0.21	0.03	0.15	0.11	0.60
261630001	7	0.65	0.32	0.29	0.05	0.11	0.14	0.47
261610008	7	0.60	0.21	0.23	0.03	0.01	0.11	0.59
260910007	7	-0.22	0.15	0.22	0.02	0.63	0.14	0.63
261250001	7	1.05	0.25	0.32	0.03	0.06	0.09	0.65
261470005	7	-0.08	0.10	0.18	0.02	0.86	0.13	0.64
260991003	7	0.54	0.16	0.28	0.03	0.16	0.06	0.62
260990009	7	-0.09	0.13	0.19	0.03	0.36	0.08	0.45
261630019	7	0.15	0.25	0.29	0.04	0.14	0.10	0.50
261630001	8	0.22	0.34	0.31	0.04	0.28	0.11	0.54
261610008	8	0.15	0.25	0.28	0.03	0.27	0.09	0.63
260910007	8	-0.42	0.18	0.24	0.02	0.62	0.10	0.67
261250001	8	0.25	0.37	0.35	0.04	0.43	0.12	0.61
261470005	8	-0.52	0.22	0.25	0.03	1.05	0.21	0.57
260991003	8	0.03	0.25	0.29	0.03	0.49	0.09	0.64
260990009	8	-0.50	0.29	0.21	0.04	0.91	0.11	0.54
261630019	8	-0.09	0.33	0.34	0.05	0.32	0.09	0.46
261630001	9	-0.72	0.43	0.34	0.04	0.63	0.11	0.56
261610008	9	-1.15	0.38	0.36	0.04	0.82	0.09	0.63
260910007	9	-0.58	0.22	0.25	0.02	0.80	0.09	0.67

261250001	9	-0.96	0.50	0.39	0.04	0.90	0.14	0.58
261470005	9	-0.89	0.22	0.29	0.03	1.13	0.18	0.67
260991003	9	-0.46	0.38	0.29	0.03	0.82	0.13	0.58
260990009	9	-0.96	0.39	0.26	0.05	1.58	0.16	0.66
261630019	9	-0.66	0.36	0.32	0.04	0.78	0.09	0.66
261630001	10	-1.32	0.45	0.32	0.04	1.09	0.10	0.68
261610008	10	-3.87	0.72	0.55	0.06	1.77	0.13	0.76
260910007	10	-0.42	0.20	0.22	0.02	1.07	0.06	0.83
261250001	10	-1.29	0.57	0.39	0.05	0.94	0.14	0.57
261470005	10	-0.95	0.22	0.28	0.03	1.19	0.15	0.74
260991003	10	-0.51	0.41	0.29	0.04	0.73	0.12	0.55
260990009	10	-0.95	0.32	0.28	0.03	1.12	0.14	0.63
261630019	10	-1.18	0.38	0.30	0.03	1.30	0.10	0.78
261630001	11	-1.10	0.40	0.27	0.03	1.49	0.09	0.83
261610008	11	-2.92	0.55	0.44	0.04	1.90	0.11	0.85
260910007	11	-0.41	0.21	0.21	0.02	1.21	0.08	0.81
261250001	11	-1.33	0.61	0.37	0.05	0.62	0.14	0.51
261470005	11	-0.55	0.18	0.21	0.02	0.85	0.13	0.67
260991003	11	-0.31	0.36	0.24	0.03	0.70	0.08	0.61
260990009	11	-0.37	0.15	0.19	0.01	1.05	0.06	0.86
261630019	11	-0.79	0.27	0.23	0.02	1.44	0.09	0.86
261630001	12	-0.66	0.34	0.23	0.03	1.51	0.09	0.83
261610008	12	-1.15	0.29	0.28	0.02	1.99	0.08	0.93
260910007	12	-0.55	0.23	0.22	0.02	1.19	0.11	0.76
261250001	12	-1.54	0.53	0.35	0.04	0.74	0.10	0.60
261470005	12	-0.18	0.14	0.16	0.02	0.84	0.11	0.69
260991003	12	-0.09	0.22	0.17	0.02	1.09	0.05	0.90
260990009	12	-0.51	0.19	0.22	0.02	1.24	0.10	0.83
261630019	12	-0.38	0.28	0.18	0.02	1.42	0.10	0.82
261630001	13	-0.31	0.27	0.20	0.02	1.35	0.08	0.84
261610008	13	-0.89	0.26	0.26	0.02	1.68	0.09	0.90
260910007	13	-0.47	0.21	0.20	0.02	0.82	0.14	0.63
261250001	13	-1.16	0.37	0.28	0.03	1.37	0.10	0.80
261470005	13	-0.10	0.11	0.13	0.01	0.45	0.12	0.68
260991003	13	0.00	0.25	0.16	0.02	1.04	0.07	0.80
260990009	13	-0.39	0.20	0.20	0.02	1.21	0.11	0.81
261630019	13	-0.31	0.28	0.18	0.02	1.37	0.11	0.79
261630001	14	-0.64	0.34	0.24	0.03	1.63	0.09	0.87
261610008	14	-0.87	0.22	0.26	0.02	1.45	0.09	0.90
260910007	14	-0.44	0.17	0.17	0.02	0.39	0.13	0.61

261250001	14	-0.86	0.28	0.25	0.02	1.47	0.09	0.83
261470005	14	-0.06	0.09	0.12	0.01	0.40	0.11	0.70
260991003	14	0.11	0.29	0.17	0.03	0.81	0.08	0.63
260990009	14	-0.15	0.19	0.17	0.02	1.03	0.11	0.76
261630019	14	-0.26	0.26	0.18	0.02	1.38	0.10	0.80
261630001	15	-0.66	0.35	0.25	0.03	1.83	0.08	0.89
261610008	15	-0.96	0.19	0.28	0.02	1.49	0.08	0.92
260910007	15	-0.46	0.16	0.16	0.02	0.34	0.13	0.63
261250001	15	-0.50	0.30	0.24	0.03	1.02	0.10	0.65
261470005	15	0.02	0.12	0.12	0.01	0.64	0.16	0.55
260991003	15	0.09	0.33	0.18	0.03	0.67	0.10	0.44
260990009	15	-0.05	0.26	0.17	0.02	1.12	0.12	0.69
261630019	15	-0.36	0.24	0.21	0.02	1.23	0.10	0.78
261630001	16	-0.34	0.23	0.23	0.02	1.38	0.07	0.88
261610008	16	-1.22	0.21	0.33	0.02	1.73	0.07	0.93
260910007	16	-0.45	0.16	0.17	0.02	0.55	0.14	0.64
261250001	16	-0.33	0.28	0.23	0.03	0.93	0.11	0.58
261470005	16	0.02	0.10	0.15	0.01	0.71	0.12	0.75
260991003	16	-0.05	0.31	0.21	0.03	0.78	0.12	0.46
260990009	16	-0.06	0.27	0.19	0.03	1.03	0.13	0.61
261630019	16	-0.32	0.21	0.21	0.02	0.95	0.09	0.74
261630001	17	0.25	0.16	0.18	0.02	0.86	0.08	0.69
261610008	17	-0.51	0.16	0.28	0.02	1.56	0.06	0.92
260910007	17	-0.47	0.17	0.21	0.02	1.01	0.13	0.71
261250001	17	0.01	0.17	0.22	0.02	1.02	0.10	0.68
261470005	17	0.06	0.10	0.17	0.01	0.83	0.13	0.76
260991003	17	0.11	0.20	0.21	0.02	1.05	0.12	0.62
260990009	17	-0.06	0.19	0.21	0.02	1.03	0.10	0.70
261630019	17	0.08	0.17	0.17	0.02	1.01	0.08	0.74
261630001	18	0.61	0.12	0.16	0.02	0.67	0.10	0.53
261610008	18	0.26	0.12	0.20	0.02	1.22	0.07	0.84
260910007	18	-0.56	0.19	0.25	0.02	1.59	0.10	0.86
261250001	18	0.43	0.12	0.21	0.02	1.13	0.10	0.73
261470005	18	0.13	0.09	0.19	0.01	1.00	0.14	0.76
260991003	18	0.52	0.12	0.19	0.02	1.04	0.11	0.69
260990009	18	0.11	0.14	0.20	0.02	1.12	0.09	0.75
261630019	18	0.31	0.14	0.16	0.02	0.89	0.10	0.62
261630001	19	0.82	0.09	0.13	0.02	0.52	0.15	0.41
261610008	19	0.59	0.11	0.18	0.02	1.09	0.11	0.61
260910007	19	-0.45	0.18	0.27	0.02	1.73	0.07	0.92

261250001	19	0.90	0.10	0.19	0.02	1.00	0.14	0.57
261470005	19	0.19	0.09	0.17	0.02	0.75	0.14	0.64
260991003	19	0.86	0.10	0.17	0.02	0.88	0.14	0.52
260990009	19	0.29	0.11	0.18	0.02	1.27	0.11	0.72
261630019	19	0.46	0.11	0.14	0.02	0.56	0.15	0.51
261630001	20	0.86	0.08	0.10	0.02	0.26	0.18	0.41
261610008	20	0.78	0.09	0.13	0.03	0.68	0.18	0.31
260910007	20	-0.19	0.16	0.25	0.02	1.58	0.08	0.87
261250001	20	1.01	0.10	0.13	0.03	0.50	0.20	0.29
261470005	20	0.18	0.08	0.13	0.02	0.40	0.14	0.51
260991003	20	0.92	0.10	0.13	0.03	0.52	0.22	0.29
260990009	20	0.42	0.10	0.17	0.02	1.31	0.17	0.56
261630019	20	0.46	0.10	0.14	0.02	0.40	0.17	0.53
261630001	21	0.83	0.10	0.14	0.02	0.44	0.20	0.51
261610008	21	0.77	0.09	0.08	0.03	0.18	0.22	0.24
260910007	21	0.12	0.13	0.20	0.02	1.13	0.12	0.63
261250001	21	0.89	0.11	0.10	0.03	0.24	0.25	0.20
261470005	21	0.14	0.09	0.14	0.02	0.38	0.21	0.47
260991003	21	0.82	0.11	0.10	0.03	0.24	0.25	0.23
260990009	21	0.45	0.10	0.15	0.03	0.95	0.25	0.30
261630019	21	0.41	0.11	0.16	0.02	0.65	0.16	0.61
261630001	22	0.74	0.12	0.19	0.02	0.90	0.20	0.64
261610008	22	0.67	0.10	0.08	0.02	0.00	0.25	0.32
260910007	22	0.30	0.11	0.13	0.02	0.46	0.20	0.43
261250001	22	0.75	0.11	0.09	0.03	0.06	0.29	0.23
261470005	22	0.15	0.10	0.21	0.02	1.04	0.19	0.59
260991003	22	0.74	0.11	0.12	0.03	0.35	0.26	0.24
260990009	22	0.32	0.10	0.08	0.03	0.01	0.30	0.23
261630019	22	0.36	0.12	0.19	0.02	0.85	0.17	0.69
261630001	23	0.63	0.11	0.18	0.02	0.82	0.20	0.61
261610008	23	0.60	0.11	0.11	0.02	0.18	0.25	0.38
260910007	23	0.34	0.11	0.10	0.02	0.03	0.23	0.44
261250001	23	0.70	0.11	0.17	0.03	0.69	0.25	0.40
261470005	23	0.16	0.09	0.19	0.02	0.92	0.20	0.56
260991003	23	0.68	0.11	0.16	0.03	0.65	0.25	0.39
260990009	23	0.22	0.09	0.05	0.03	-0.41	0.24	0.34
261630019	23	0.33	0.13	0.20	0.02	0.87	0.19	0.69