

United States Environmental Protection Agency  
National Vehicle and Fuel Emissions Laboratory

July 7, 1999

MEMORANDUM

Subject: Additional information concerning photochemical model runs OMS1 and OMS2, supplied at stakeholder request.

From: Harvey M. Michaels  
Assessment and Modeling Division  
Office of Mobile Sources

To: Air Docket A-97-10

This memorandum supplies the standard OTAG metrics that were calculated for photochemical model runs OMS1 and OMS2. These runs were exploratory simulations. OMS1 reduced mobile source VOC only, and OMS2 reduced mobile source NO<sub>x</sub> only with respect to the 2007 Regional Ozone Transport Rule (ROTR) simulation (SNPR inventory). Further information concerning these model runs may be found in "Photochemical Air Quality Simulations in Support of Tier 2/Sulfur," a memorandum to Air Docket A-97-10. It is also available on the World Wide Web at <http://www.epa.gov/oms/t2models.htm>.

Detailed descriptions of the OTAG modeling system may be found in Chapter 2, "Regional and Urban Scale Modeling Workgroup" in the *OTAG Technical Supporting Document*. This document is in Air Docket A-96-56, Category II-A-14. It may also be found on the World Wide Web at <http://www.epa.gov/ttn/rto/otag/finalrpt/>.

The metrics have been printed and follow the figures in the docketed hard copy of this memo. In the version posted on the World Wide Web, they are in four separate Excel spreadsheet files: OMS-88.xls, OMS-91.xls, OMS-93.xls, and OMS-95.xls.

The rest of this memo 1) describes the geographical regions to which the metrics were applied, 2) provides summary definitions for the metrics, 3) provides detailed descriptions for the metrics that are not self-explanatory, and 4) presents the metrics themselves.

**Geographical regions to which the metrics were applied**

These metrics were applied to the following subsets of the OTAG domain:

- The whole OTAG modeling domain. A full description may be found in Chapter 2 of the *OTAG Technical Supporting Document* referenced above.
- The OTAG fine grid. A portion of the modeling domain, which uses a finer grid. A full description may be found in Chapter 2 of the *OTAG Technical Supporting Document* referenced above.

- Twelve ozone problem regions, indicated on Figure 1. These regions are those that were used in the ROTR SNPRM, Federal Register, May 11, 1998, Vol. 63, pp. 25901-25994.
- Four quadrants of the OTAG region, indicated on Figure 2.
- Four urban-scale UAM domains (New England, New York City, Philadelphia, and Baltimore-Washington DC).

## **Summary of OTAG Air Quality Metrics**

"Base" refers to the base case simulations, which is 2007 ROTR (SNPR inventory).  
 "Control" refers to either OMS1 or OMS2.

- Peak 1-Hr Ozone
- Peak 1-Hr Total - # of Grid Cells (with daily maximum 1-hr ozone) > 100 ppb
- Peak 1-Hr Total - # of Grid Cells (with daily maximum 1-hr ozone) > 120 ppb
- Peak 1-Hr Total - # of Grid Cells (with daily maximum 1-hr ozone) > 124 ppb
- Peak 1-Hr Total - # of Grid Cells (with daily maximum 1-hr ozone) > 140 ppb
- Peak 8-Hr Ozone
- Peak 8-Hr Total - # of Grid Cells (with daily maximum 8-hr ozone) > 84 ppb
- Peak 8-Hr Total - # of Grid Cells (with daily maximum 8-hr ozone) > 100 ppb
- Peak 8-Hr Total - # of Grid Cells (with daily maximum 8-hr ozone) > 120 ppb
- # of Grid Cell - Hours > 100 ppb
- # of Grid Cell - Hours > 120 ppb
- # of Grid Cell - Hours > 124 ppb
- # of Grid Cells - Hours > 140 ppb
- Areal Exposure (ppb-hrs) > 100 ppb
- Areal Exposure (ppb-hrs) > 124 ppb
- Weighted Sum of Differences (ppb) > 100 ppb
- Weighted Sum of Differences (ppb) > 124 ppb
- Average Difference (ppb) Where the Base is Above > 100 ppb
- Average Difference (ppb) Where the Base is Above > 124 ppb
- Average Difference (ppb) Where the Control is Above > 100 ppb
- Average Difference (ppb) Where the Control is Above > 124 ppb
- Number of Grid Cells Where the Base is Above and Control is Below > 100 ppb
- Number of Grid Cells Where the Base is Above and Control is Below > 124 ppb
- # Grid Cells in Subdomain with Max Difference  $\leq -4$  ppb
- # Grid Cells in Subdomain with Max Difference  $\leq -12$  ppb
- # Grid Cells in Subdomain with Max Difference  $\leq -28$  ppb
- # Grid Cells in Subdomain with Max Difference  $\leq -12$  to  $-6$  ppb
- # Grid Cells in Subdomain with Max Difference  $\leq -6$  to  $-4$  ppb
- # Grid Cells in Subdomain with Max Difference  $\leq -4$  to  $-2$  ppb
- # Grid Cells in Subdomain with Max Difference  $\leq -2$  to  $+2$  ppb
- # Grid Cells in Subdomain with Max Difference  $\leq +2$  to  $+4$  ppb

- # Grid Cells in Subdomain with Max Difference  $\leq + 4$  to  $+ 6$  ppb
- # Grid Cells in Subdomain with Max Difference  $\leq + 6$  to  $+ 12$  ppb
- # Grid Cells in Subdomain with Max Difference  $\geq 12$  ppb
- # Grid Cells in Subdomain with Max Difference  $\geq 4$  ppb
- # Grid Cells with  $< - 12$  ppb Decrease and Base is  $> 100$  ppb
- # Grid Cells with  $< - 12$  ppb Decrease and Base is  $> 124$  ppb
- # Grid Cells with  $< - 6$  ppb Decrease and Base is  $> 100$  ppb
- # Grid Cells with  $< - 6$  ppb Decrease and Base is  $> 124$  ppb
- # Grid Cells with  $< - 4$  ppb Decrease and Base is  $> 100$  ppb
- # Grid Cells with  $< - 4$  ppb Decrease and Base is  $> 124$  ppb
- # Grid Cells with  $< - 2$  ppb Decrease and Base is  $> 100$  ppb
- # Grid Cells with  $< - 2$  ppb Decrease and Base is  $> 124$  ppb
- # Grid Cells with  $> 2$  ppb Increase and Base is  $> 100$  ppb
- # Grid Cells with  $> 2$  ppb Increase and Base is  $> 124$  ppb
- # Grid Cells with  $> 4$  ppb Increase and Base is  $> 100$  ppb
- # Grid Cells with  $> 4$  ppb Increase and Base is  $> 124$  ppb
- # Grid Cells with  $> 6$  ppb Increase and Base is  $> 100$  ppb
- # Grid Cells with  $> 6$  ppb Increase and Base is  $> 124$  ppb

## Descriptions of Selected Air Quality Metrics

The following are brief descriptions of those metrics that are not self-explanatory. "Base" refers to the base case simulations, which is the 2007 ROTR (SNPR inventory) simulation. "Control" refers to either OMS1 or OMS2.

### **Areal Exposure**

Areal Exposure was calculated by first summing all hourly concentrations that are  $\geq 125$  ppb (i.e. add together the predicted hourly "ppb" values that are  $\geq 125$  ppb) for each grid cell individually, for each day. These "daily exposure" values in each grid were then summed by grid cell over all days in all 4 episodes to produce the total exposure for each grid cell. The resulting grid cell exposure values were summed over all grid cells in the region. The region total exposure values were then multiplied by the total area of the grid cells included in the calculation to produce the areal exposure values in units of ppb-hrs-km<sup>2</sup>).

- For example assume the following data set for Region "X":

	Hourly Ozone Values (ppb)					
	Day 7 of the episode			Day 8 of the episode		
Hours	grid cell "a"	grid cell "b"		grid cell "a"	grid cell "b"	
00-11	all values $< 125$ ppb			all values $< 125$ ppb		
11-12	119	130		100	119	

12-13	128	143		105	135	
13-14	133	150		112	142	
14-15	140	157		118	151	
15-16	139	162		115	148	
16-23	128	131		107	123	
Sum of Values ≥125 ppb	668	873		0	576	

- The total exposure for Region "X" for this episode is  $668+873+576 = 2117$ .
- Assume that the grid cells are exactly 12km x 12km such that the area of each grid cell is 144 km<sup>2</sup> and thus, the total area of the 2 grid cells with predictions ≥125 ppb is 288 km<sup>2</sup>. [Note that a latitude/longitude coordinate system was used by OTAG such that each grid cell in the Fine Grid was 1/9° latitude by 1/6° longitude (approximately 12km). Thus, in calculating the areal exposure, the area of each grid cell was calculated separately, based upon its geographic location of the grid cell.)
- The areal exposure for Region "X" is then  $2117 \times 288$  or approximately 609,700 ppb-hrs-km<sup>2</sup>.

### Weighted Sum of Differences > 124 ppb

This metric is calculated by first determining the change in daily maximum 1-hr ozone in each grid cell between the Base Case and the Control scenario for all daily maximum values >124 ppb (in the Base Case). This "ppb" "change in ozone" is multiplied by the corresponding Base Case ozone prediction in that grid cell. These concentration "weighted" differences are calculated for each day and then summed for the episode. Finally, the sum of "weighted" differences is divided by the sum of the Base Case daily maximum concentrations to produce the values for this metric. This metric provides a means for examining the "average" ozone reduction in a way that gives more importance or "weight" to reductions that occur at high concentrations.

- For example, consider the following data set for Region "X"

	Daily Max Ozone (ppb)				Daily Max Ozone (ppb)			
	Grid Cell "a"			Base x Diff	Grid Cell "b"			Base x Diff
	Base	Control	Diff		Base	Control	Diff	

Day 5	128	119	9	1152	154	142	12	1848
Day 6	143	130	13	1859	166	147	19	3154
Day 7	156	133	23	3588	130	122	8	1040
Day 8	148	124	24	3552	103	88	N/A	0
Day 9	119	110	N/A	0	149	135	14	2086
Sum of Values $\geq 125$ ppb	575				599			
Sum of "Diff x Base"				10151				8128

- Thus, for Region "X" the "weighted sum of differences" in this example is  $(10151 + 8128)/(575 + 599) = 15.6$  ppb.

#### **Average Difference Where the Base is Above > 100 ppb**

This metric is the average difference in daily maximum ozone concentrations between the Base Case and the Control scenario for all days and grid cells with Base Case ozone >100 ppb.

#### **Average Difference Where the Control is Above > 100 ppb**

This metric is the average difference in daily maximum ozone concentrations between the Base Case and the Control scenario for all days and grid cells with Control scenario ozone >100 ppb.

#### **Number of Grid Cells Where the Base is Above and Control is Below > 100 ppb**

This metric is the number of grid cells in which the Base Case daily maximum 1-hr ozone is >100 ppb, but the Control concentration drops to <100 ppb.

#### **# Grid Cells in Subdomain with Max Difference $\leq - 4$ ppb**

This metric is the number of grid cells in a problem area which have a reduction in daily maximum ozone of 4 ppb or more during the episode.

#### **# Grid Cells with < - 12 ppb Decrease and Base is > 100 ppb**

This metric is the number of grid cells in a problem area which have a reduction in daily maximum ozone of more than 12 ppb on days when the Base Case daily maximum ozone is >100 ppb.

**Figure 1.** Twelve of the ozone "Problem Areas" selected by OTAG. Source: Federal Register, Vol. 63, p. 25959, May 11, 1998, NO<sub>x</sub> SIP Call SNPRM.

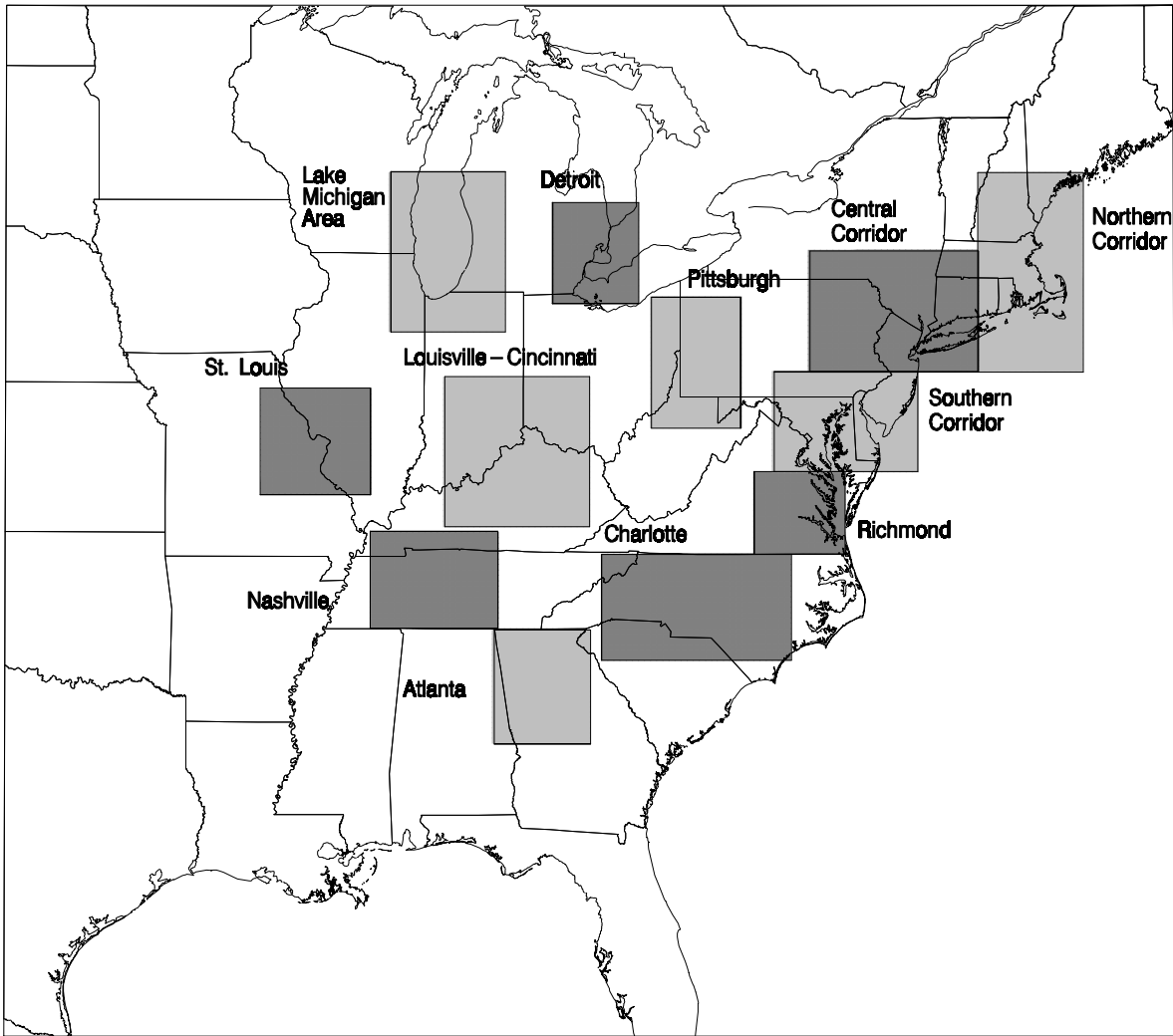
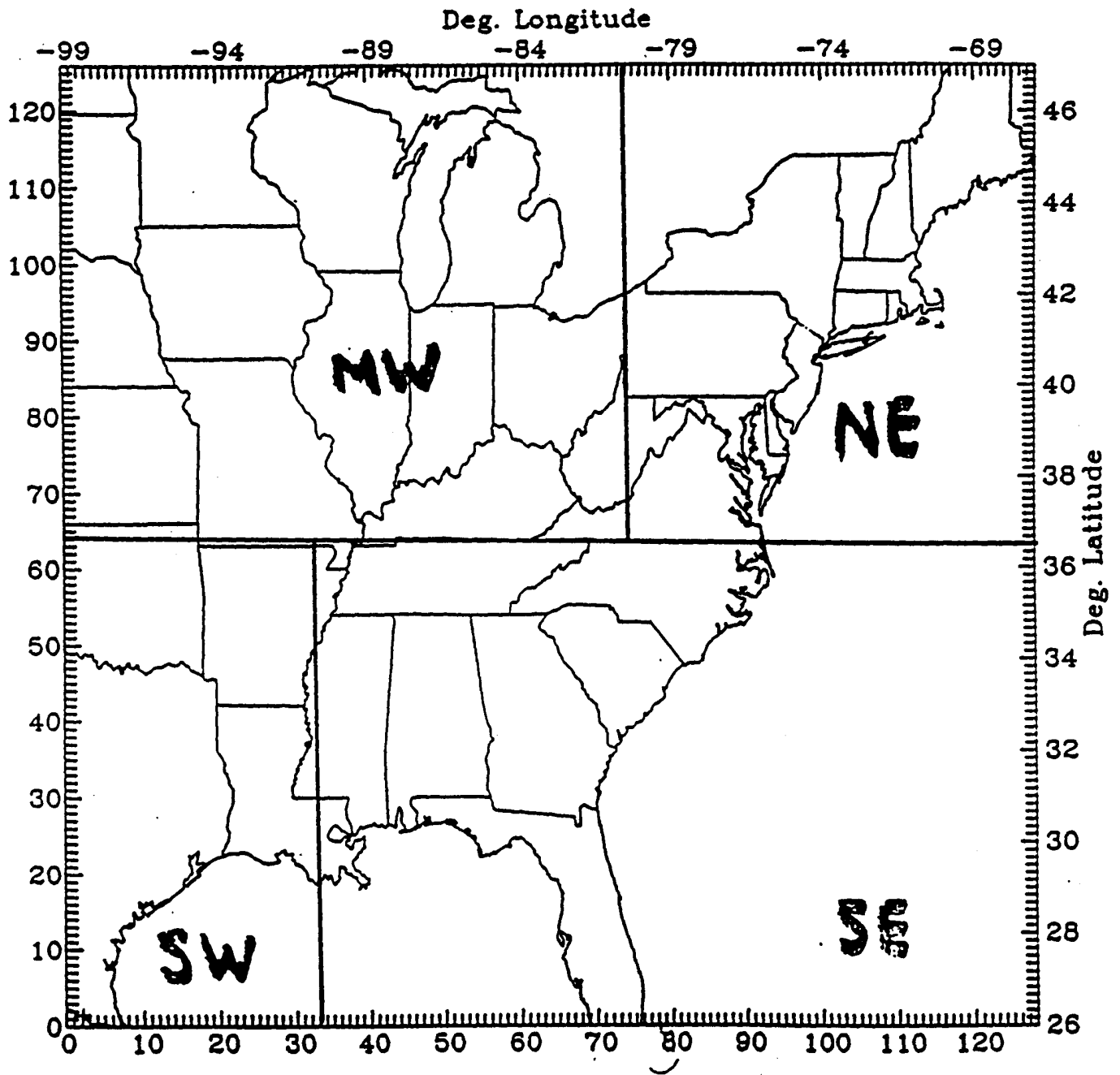


Figure 2. Positions of the four quadrants of the OTAG domain.



**OTAG Metrics for July 1988 Episode**

**Peak 1 hour ozone**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.	199	199	155	199	171	94	166	177	199	150	166	171	138	130	122	153	136	159	174	177	187	199
OMS-1	198	198	155	198	170	94	165	175	198	150	165	170	137	130	122	148	136	159	173	175	187	198
OMS-2	190	190	150	190	155	92	159	174	190	136	153	155	135	118	114	150	124	146	167	174	169	190

**Peak 1hr Total # of Grid Cells > 100 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.	4271	4197	787	3042	348	0	681	851	728	198	51	68	155	12	211	155	53	189	918	885	675	636
OMS-1	4202	4127	750	3008	348	0	677	834	729	196	51	67	149	12	207	145	51	191	908	868	669	636
OMS-2	2389	2371	391	1838	125	0	418	649	455	76	25	33	79	7	100	107	22	53	617	683	455	405

**Peak 1hr Total # of Grid Cells > 120 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.	1102	1101	109	910	76	0	188	362	263	37	22	16	26	4	4	44	1	26	303	380	228	241
OMS-1	1073	1072	101	892	73	0	187	350	261	37	22	16	24	4	3	39	1	25	299	367	225	239
OMS-2	656	656	58	570	27	0	99	280	164	14	8	10	18	0	0	26	1	9	182	285	146	148

**Peak 1hr Total # of Grid Cells > 124 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.	877	877	81	734	58	0	147	314	214	27	19	14	22	4	0	34	1	19	247	325	185	195
OMS-1	856	856	68	725	59	0	146	309	211	27	19	15	20	4	0	27	1	19	245	320	181	192
OMS-2	531	531	41	471	19	0	77	234	139	11	7	9	14	0	0	17	1	5	150	240	113	128

**Peak 1hr Total # of Grid Cells > 140 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.	315	315	5	293	17	0	52	139	95	4	6	9	0	0	0	2	0	4	109	145	58	88
OMS-1	306	306	5	285	16	0	52	133	94	4	6	8	0	0	0	2	0	4	106	139	57	87
OMS-2	199	199	1	190	8	0	22	106	62	0	3	3	0	0	0	1	0	2	58	108	39	59

**Peak 8 hour ozone**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.	168	168	139	168	142	82	150	150	168	128	137	139	130	118	115	139	117	142	150	150	159	168
OMS-1	167	167	133	167	142	82	150	150	167	128	136	138	130	118	115	133	117	142	150	150	159	167
OMS-2	158	158	141	158	130	79	142	144	158	111	129	130	126	110	109	141	108	129	142	144	147	158

**Peak 8hr Total # of Grid Cells > 84 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.	8341	8052	2058	5343	668	0	1132	1256	1115	313	68	139	447	32	435	253	197	450	1409	1214	996	979
OMS-1	8244	7958	1994	5307	671	0	1130	1239	1114	313	68	140	432	32	426	237	190	452	1399	1199	991	977
OMS-2	4573	4467	1115	3130	209	0	724	906	688	149	26	70	224	12	325	184	81	117	979	933	659	599

**Peak 8hr Total # of Grid Cells > 100 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.	2221	2183	285	1733	143	0	418	555	413	96	26	32	50	6	92	74	13	75	597	589	383	361
OMS-1	2182	2144	267	1714	141	0	416	548	410	95	26	32	49	6	85	70	12	75	593	582	379	358
OMS-2	1113	1108	153	906	41	0	193	389	228	19	12	17	35	5	36	50	3	15	325	407	218	201

**Peak 8hr Total # of Grid Cells >120 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.	418	418	20	374	22	0	79	181	100	2	9	7	2	0	0	15	0	6	162	191	71	89
OMS-1	407	407	18	365	22	0	79	173	99	2	9	7	2	0	0	13	0	6	160	183	69	88
OMS-2	235	235	6	220	9	0	36	122	60	0	2	3	1	0	0	5	0	4	90	124	38	55



**OTAG Metrics for July 1988 Episode**

**# of Grid Cells with Hours >100 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.	21140	20813	3187	16044	1422	0	3984	5020	3651	872	247	315	604	53	895	782	168	747	5658	5430	3313	3154
OMS-1	20733	20403	2990	15828	1424	0	3939	4917	3636	867	245	314	583	52	841	719	154	753	5569	5319	3279	3131
OMS-2	10785	10721	1556	8649	448	0	1887	3532	2094	232	106	141	325	34	397	487	51	177	3128	3734	1997	1847

**# of Grid Cells with hours >120 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.	4324	4320	338	3712	249	0	786	1601	1040	104	88	66	81	14	8	155	4	78	1434	1688	835	934
OMS-1	4181	4177	303	3609	243	0	775	1528	1031	104	88	64	74	14	5	135	4	77	1400	1611	823	926
OMS-2	2403	2403	154	2164	83	0	371	1115	613	30	22	33	49	0	0	83	2	30	779	1139	470	566

**# of Grid Cells with hours > 124 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.	3203	3203	205	2809	180	0	588	1250	814	71	67	49	52	8	0	104	4	56	1103	1305	615	744
OMS-1	3102	3102	175	2740	178	0	583	1205	800	69	66	49	45	8	0	85	4	55	1082	1259	596	732
OMS-2	1826	1826	88	1678	60	0	273	870	493	19	19	27	27	0	0	46	1	18	596	886	345	466

**# of Grid Cells with hours > 140 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.	996	996	12	936	48	0	160	433	330	7	14	23	0	0	0	7	0	15	357	447	175	319
OMS-1	946	946	12	889	45	0	158	394	326	7	13	21	0	0	0	7	0	15	341	408	170	314
OMS-2	569	569	5	548	16	0	57	302	189	0	8	5	0	0	0	5	0	3	157	305	100	186

**Areal Exposure (ppb-hrs-sq. km) >100 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.	.1E+08 4	.1E+08 6.	0.00E+00	3.20E+08	3.0E+07 0.	0.00E+00	7.50E+07	1.00E+08	7.50E+07	1.70E+07	5.40E+06	6.60E+06	1.20E+07	1.10E+06	1.60E+07	1.50E+07	3.10E+06	1.50E+07	1.10E+08	1.10E+08	6.60E+07	6.50E+07
OMS-1	.1E+08 4	.0E+08 5.	6.00E+07	3.10E+08	3.0E+07 0.	0.00E+00	7.40E+07	9.80E+07	7.50E+07	1.70E+07	5.40E+06	6.50E+06	1.10E+07	1.00E+06	1.50E+07	1.30E+07	2.80E+06	1.50E+07	1.10E+08	1.10E+08	6.60E+07	6.50E+07
OMS-2	.1E+08 2	.1E+08 2.	9.00E+07	1.70E+08	9.3E+06 0.	0.00E+00	3.60E+07	7.10E+07	4.30E+07	4.60E+06	2.30E+06	2.90E+06	6.40E+06	6.50E+05	7.00E+06	9.20E+06	9.30E+05	3.60E+06	6.00E+07	7.50E+07	4.00E+07	3.80E+07

**Areal Exposure (ppb-hrs-sq. km) >124 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.	.6E+07 7	.6E+07 4.	7.00E+06	6.70E+07	4.6E+06 0.	0.00E+00	1.30E+07	3.00E+07	2.00E+07	1.70E+06	1.70E+06	1.30E+06	1.20E+06	1.80E+05	0.00E+00	2.30E+06	9.20E+04	1.40E+06	2.60E+07	3.10E+07	1.50E+07	1.90E+07
OMS-1	.4E+07 7	.4E+07 4.	0.00E+00	6.50E+07	4.5E+06 0.	0.00E+00	1.30E+07	2.80E+07	2.00E+07	1.60E+06	1.70E+06	1.30E+06	1.00E+06	1.80E+05	0.00E+00	1.90E+06	9.20E+04	1.40E+06	2.50E+07	3.00E+07	1.40E+07	1.80E+07
OMS-2	.3E+07 4	.3E+07 2.	0.00E+00	4.00E+07	1.5E+06 0.	0.00E+00	6.20E+06	2.10E+07	1.20E+07	4.40E+05	4.90E+05	6.80E+05	6.20E+05	0.00E+00	0.00E+00	1.00E+06	2.20E+04	4.50E+05	1.40E+07	2.10E+07	8.20E+06	1.20E+07

**Weighted Sum of Differences >100 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.																						
OMS-1	-0.4	-0.4	-0.7	-0.4	-0.1	0	-0.2	-0.8	-0.2	-0.1	-0.2	-0.2	-0.6	-0.2	-0.5	-1.6	-0.5	0	-0.4	-0.7	-0.4	-0.3
OMS-2	-8.8	-8.8	-6.5	-8.8	-13.9	0	-9.1	-6.3	-9.5	-13.2	-16.1	-11	-6.1	-9.2	-6.3	-5.3	-6.6	-13.7	-8.8	-6.5	-8.2	-9.2

**Weighted Sum of Differences >124 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.																						
OMS-1	-0.7	-0.7	-1.3	-0.7	-0.4	0	-0.2	-1.1	-0.4	-0.4	-0.4	-0.5	-1.4	-0.3	0	-2	0	-0.2	-0.6	-1.1	-0.5	-0.4
OMS-2	-8.6	-8.6	-7.1	-8.2	-15.8	0	-9.9	-5.6	-9.7	-15	-17.3	-14.5	-4.7	-10.4	0	-6.9	-11.2	-14.7	-9.2	-5.8	-8.6	-9.8

**Average Difference where base is above 100 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.																						
OMS-1	-0.7	-0.7	-1.3	-0.7	-0.4	0	-0.2	-1.1	-0.4	-0.4	-0.4	-0.5	-1.4	-0.3	0	-2	0	-0.2	-0.5	-1	-0.5	-0.4
OMS-2	-8.7	-8.7	-7	-8.3	-15.9	0	-9.9	-5.6	-9.6	-14.8	-17.5	-14.3	-4.7	-10.4	0	-6.9	-11.2	-14.8	-9.2	-5.9	-8.5	-9.7

**OTAG Metrics for July 1988 Episode**

**Average Difference where base is above 124 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC	
SNPR Bud.																							
OMS-1	0	-0.1	-0.1	-0.1	0	0	-0.1	-0.3	-0.1	-0.1	0	0	-0.1	0	-0.2	-0.5	-0.2	0	-0.1	-0.3	-0.2	-0.1	
OMS-2	-2.9	-4.3	-3.3	-4.7	-2.2	-1.8	-5.7	-5.7	-6.9	-7.2	-6.4	-6	-5.1	-4.2	-3.6	-3.9	-5	-7.5	-6.2	-5.3	-6.4	-7.2	

**Average Difference where control is above 100 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC	
07s9596D2-bg																							
OMST1D2	-0.4	-0.4	-0.7	-0.3	-0.1	0	-0.2	-0.7	-0.2	-0.1	-0.2	-0.1	-0.6	-0.2	-0.5	-1.6	-0.5	0	-0.3	-0.7	-0.3	-0.3	
OMST2D2	-7.8	-7.8	-6.1	-7.8	-13.3	0	-9	-5.5	-8.9	-11.7	-16.7	-12	-5.3	-9.6	-6.4	-4.8	-5.4	-13	-8.4	-5.8	-7.7	-8.7	

**Average Difference where control is above 124 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC	
SNPR Bud.																							
OMS-1	-0.7	-0.7	-1.2	-0.6	-0.4	0	-0.2	-1.1	-0.4	-0.4	-0.4	-0.5	-1.3	-0.3	0	-1.8	0	-0.2	-0.5	-1	-0.5	-0.4	
OMS-2	-6.9	-6.9	-5.4	-6.7	-13.1	0	-9.4	-4.1	-9.2	-9.7	-13.7	-13.4	-3.8	0	0	-5.3	-11.2	-12.3	-8.5	-4.4	-7.7	-9.2	

**Number of grid cells where Base is above and control is below 100 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC	
SNPR Bud.																							
OMS-1	77	76	37	38	2	0	4	17	2	2	0	1	6	0	4	10	2	0	10	17	7	1	
OMS-2	1915	1859	400	1232	224	0	265	226	273	122	26	35	77	5	111	51	31	136	314	226	222	231	

**Number of grid cells where Base is above and control is below 124 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC	
SNPR Bud.																							
OMS-1	22	22	13	9	0	0	1	5	3	0	0	0	2	0	0	7	0	0	2	5	4	3	
OMS-2	363	363	46	274	39	0	71	88	76	17	12	5	9	4	0	21	0	14	98	93	76	68	

**# Grid Cells in Subdomain with Max Difference <= -4 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC	
SNPR Bud.																							
OMS-1	15	15	9	6	0	0	0	5	0	1	0	0	0	0	9	0	0	0	0	5	2	0	
OMS-2	74171	59016	24170	26564	17996	2184	2941	3844	2945	1490	1979	2620	3751	1458	1579	992	2040	3799	3896	2515	2437	2619	

**# Grid Cells in Subdomain with Max Difference <= -12 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC	
SNPR Bud.																							
OMS-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
OMS-2	2513	2513	79	1135	1299	0	108	86	226	231	273	36	0	9	0	0	1	682	153	84	74	188	

**# Grid Cells in Subdomain with Max Difference <= -28 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC	
SNPR Bud.																							
OMS-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
OMS-2	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

**# Grid Cells in Subdomain with Max Difference < -12 to -6 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC	
SNPR Bud.																							
OMS-1	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	
OMS-2	27563	25018	5858	13044	7167	91	1876	2356	1737	837	844	1256	1553	272	225	212	710	2277	2442	1584	1556	1654	

**OTAG Metrics for July 1988 Episode**

**# Grid Cells in Subdomain with Max Difference < -6 to -4 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.																						
OMS-1	13	13	7	6	0	0	0	5	0	1	0	0	0	0	0	7	0	0	0	5	2	0
OMS-2	44096	31486	18233	12385	9531	2093	957	1402	982	422	862	1328	2198	1177	1354	780	1329	840	1301	847	807	777

**# Grid Cells in Subdomain with Max Difference < -4 to -2 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.																						
OMS-1	149	149	59	88	2	0	0	53	4	14	0	1	11	0	1	43	1	0	8	53	8	4
OMS-2	83476	35120	37048	13055	19020	11501	1507	521	410	187	730	398	1305	1120	2104	609	653	977	916	665	317	196

**# Grid Cells in Subdomain with Max Difference < -2 to 2 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.																						
OMS-1	272140	120396	80284	49010	92878	32400	4624	4646	3452	1785	2816	3023	5173	2736	4103	1852	2759	4960	4984	3470	2870	2876
OMS-2	114220	26033	19030	9167	55857	18707	174	160	87	67	107	6	122	158	377	271	67	184	133	169	76	51

**# Grid Cells in Subdomain with Max Difference < 2 to 4 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.																						
OMS-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OMS-2	175	136	58	104	5	8	1	42	7	17	0	0	1	0	24	15	0	0	12	42	13	7

**# Grid Cells in Subdomain with Max Difference < 4 to 6 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.																						
OMS-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OMS-2	100	95	25	74	1	0	1	41	4	14	0	0	2	0	13	6	0	0	13	41	10	4

**# Grid Cells in Subdomain with Max Difference < 6 to 12 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.																						
OMS-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OMS-2	104	102	18	86	0	0	0	54	3	13	0	0	3	0	7	8	0	0	13	54	18	3

**# Grid Cells in Subdomain with Max Difference >=12 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.																						
OMS-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OMS-2	57	57	3	54	0	0	0	42	0	12	0	0	0	0	0	3	0	0	9	42	9	0

**# Grid Cells in Subdomain with Max Difference >=4 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.																						
OMS-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OMS-2	261	254	46	214	1	0	1	137	7	39	0	0	5	0	20	17	0	0	35	137	37	7

**# Grid Cells with <-12 ppb decrease and Base is >100 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.																						
OMS-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OMS-2	860	860	13	606	241	0	76	67	162	113	39	26	0	0	0	0	1	133	117	70	64	127

**OTAG Metrics for July 1988 Episode**

**# Grid Cells with <-12 ppb decrease and Base is >124 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.																						
OMS-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OMS-2	188	188	3	136	49	0	19	28	56	18	18	11	0	0	0	0	0	16	38	29	34	56

**# Grid Cells with <-6 ppb decrease and Base is >100 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.																						
OMS-1	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0
OMS-2	3374	3303	505	2443	332	0	610	564	626	185	49	59	99	12	110	82	32	187	775	597	551	535

**# Grid Cells with <-6 ppb decrease and Base is >124 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.																						
OMS-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OMS-2	669	669	56	554	55	0	137	186	179	23	19	12	9	4	0	25	1	18	214	198	145	164

**# Grid Cells with <-4 ppb decrease and Base is >100 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.																						
OMS-1	14	14	8	6	0	0	0	5	0	1	0	0	0	0	0	8	0	0	0	5	2	0
OMS-2	3847	3775	693	2719	341	0	656	652	677	191	50	66	136	12	193	118	46	189	853	681	605	586

**# Grid Cells with <-4 ppb decrease and Base is >124 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.																						
OMS-1	9	9	4	5	0	0	0	5	0	0	0	0	0	0	4	0	0	0	0	5	2	0
OMS-2	733	733	64	609	56	0	143	220	192	24	19	12	12	4	0	29	1	19	234	231	159	175

**# Grid Cells with <-2 ppb decrease and Base is >100 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.																						
OMS-1	99	99	41	56	2	0	0	44	4	3	0	1	6	0	0	32	1	0	8	44	9	4
OMS-2	4037	3963	748	2851	344	0	673	717	700	192	51	67	147	12	208	132	51	189	888	749	632	608

**# Grid Cells with <-2 ppb decrease and Base is >124 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.																						
OMS-1	59	59	16	42	1	0	0	35	4	1	0	1	4	0	0	11	0	0	8	35	5	4
OMS-2	784	784	75	648	57	0	146	246	200	25	19	13	20	4	0	31	1	19	239	257	166	181

**# Grid Cells with <2 ppb increase and Base is >100 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.																						
OMS-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OMS-2	137	137	20	116	1	0	2	95	9	4	0	0	3	0	1	14	0	0	19	95	25	9

**# Grid Cells with >2 ppb increase and Base is >124 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.																						
OMS-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OMS-2	67	67	7	60	0	0	1	49	7	2	0	0	1	0	0	5	0	0	5	49	14	7

**OTAG Metrics for July 1988 Episode**

**# Grid Cells with >4 ppb increase and Base is >100 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC	
SNPR Bud.																							
OMS-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OMS-2	101	101	13	88	0	0	1	75	6	3	0	0	3	0	0	10	0	0	15	75	21	6	

**# Grid Cells with >4 ppb increase and Base is >124 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC	
SNPR Bud.																							
OMS-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OMS-2	50	50	6	44	0	0	1	36	5	2	0	0	1	0	0	5	0	0	4	36	12	5	

**# Grid Cells with >6 ppb increase and Base is >100 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC	
SNPR Bud.																							
OMS-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OMS-2	66	66	9	57	0	0	0	50	3	2	0	0	2	0	0	7	0	0	8	50	15	3	

**# Grid Cells with >6 ppb increase and Base is >124 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC	
SNPR Bud.																							
OMS-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OMS-2	32	32	4	28	0	0	0	24	3	1	0	0	0	0	0	4	0	0	2	24	10	3	

**OTAG Metrics for July 1991 Episode**

**Peak 1 hour ozone**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.	182	159	159	154	147	182	154	150	144	114	117	98	159	137	135	108	98	89	154	150	134	144
OMS-1	182	157	157	154	146	182	154	149	143	114	117	98	157	136	134	107	98	89	154	149	133	143
OMS-2	177	154	154	144	144	177	142	144	143	102	102	92	154	135	129	101	95	77	142	144	132	143

**Peak 1hr Total # of Grid Cells > 100 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.	3423	2357	505	1657	446	541	797	395	271	6	14	0	76	23	357	4	0	0	770	561	325	194
OMS-1	3385	2324	484	1647	442	539	789	394	269	5	13	0	69	23	346	4	0	0	762	558	321	192
OMS-2	2199	1505	369	1049	320	400	549	319	134	1	1	0	49	10	290	2	0	0	564	437	163	99

**Peak 1hr Total # of Grid Cells > 120 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.	708	573	102	457	41	108	238	182	27	0	0	0	14	4	84	0	0	0	275	219	33	26
OMS-1	694	562	97	451	41	105	233	181	27	0	0	0	14	4	79	0	0	0	269	217	33	26
OMS-2	348	242	43	193	27	85	94	81	18	0	0	0	7	2	34	0	0	0	100	102	7	18

**Peak 1hr Total # of Grid Cells > 124 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.	506	404	70	324	31	81	160	141	19	0	0	0	10	2	58	0	0	0	188	165	22	19
OMS-1	487	387	64	313	30	80	155	137	17	0	0	0	8	2	54	0	0	0	183	159	20	17
OMS-2	232	154	20	130	17	65	59	58	13	0	0	0	5	2	13	0	0	0	60	70	4	13

**Peak 1hr Total # of Grid Cells > 140 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.	87	58	4	53	2	28	29	20	4	0	0	0	4	0	0	0	0	0	24	28	0	4
OMS-1	80	51	3	48	1	28	29	16	3	0	0	0	3	0	0	0	0	0	24	24	0	3
OMS-2	32	13	3	10	1	18	3	4	3	0	0	0	3	0	0	0	0	0	3	4	0	3

**Peak 8 hour ozone**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.	167	140	140	135	134	167	134	135	123	98	106	91	140	120	120	100	94	83	134	135	123	123
OMS-1	166	139	139	135	133	166	134	135	123	98	106	90	139	119	119	100	94	83	134	135	123	123
OMS-2	162	135	135	129	131	162	124	129	117	89	91	84	135	119	114	96	89	73	123	129	116	117

**Peak 8hr Total # of Grid Cells > 84 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.	6799	4191	1041	2825	1050	1187	1019	573	552	12	21	10	198	37	512	51	81	0	971	758	664	376
OMS-1	6763	4161	1013	2820	1048	1187	1017	572	551	12	21	8	191	37	504	51	78	0	967	757	663	375
OMS-2	4643	2704	709	1792	833	934	786	437	292	5	8	1	121	23	451	22	26	0	760	609	380	193

**Peak 8hr Total # of Grid Cells > 100 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.	1973	1378	249	1036	277	297	511	305	109	0	4	0	22	7	204	1	0	0	512	418	155	66
OMS-1	1954	1363	238	1031	277	294	510	300	108	0	4	0	21	7	196	1	0	0	511	412	151	66
OMS-2	1136	752	188	536	188	214	250	229	31	0	0	0	16	5	167	0	0	0	273	288	59	25

**Peak 8hr Total # of Grid Cells >120 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.	223	147	7	137	15	64	62	70	3	0	0	0	5	1	1	0	0	0	68	85	8	3
OMS-1	214	139	4	132	14	64	60	67	3	0	0	0	4	0	0	0	0	0	64	82	8	3
OMS-2	88	32	3	29	6	50	9	20	0	0	0	0	3	0	0	0	0	0	6	24	0	0

**OTAG Metrics for July 1991 Episode**

**# of Grid Cells with Hours >100 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.	18084	12453	2282	9325	2522	2854	4381	2677	1148	16	45	0	274	83	1743	16	0	0	4244	3746	1574	758
OMS-1	17851	12257	2147	9265	2499	2841	4355	2653	1131	15	44	0	256	80	1645	13	0	0	4212	3712	1549	745
OMS-2	10406	6791	1631	4856	1701	2050	2310	1856	456	2	1	0	176	40	1360	6	0	0	2390	2420	665	333

**# of Grid Cells with hours >120 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.	2617	1951	329	1581	153	554	755	720	77	0	0	0	50	13	266	0	0	0	859	867	114	76
OMS-1	2549	1892	303	1550	150	546	742	703	76	0	0	0	48	13	242	0	0	0	841	844	113	75
OMS-2	1165	667	112	542	85	426	226	272	44	0	0	0	28	7	77	0	0	0	233	328	21	44

**# of Grid Cells with hours > 124 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.	1706	1217	186	1008	96	416	471	479	51	0	0	0	33	7	146	0	0	0	532	574	60	51
OMS-1	1640	1156	165	968	95	412	460	454	47	0	0	0	27	7	131	0	0	0	516	542	53	47
OMS-2	736	385	52	323	54	307	133	160	30	0	0	0	20	5	27	0	0	0	127	191	9	30

**# of Grid Cells with hours > 140 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.	238	124	12	111	4	111	62	42	7	0	0	0	12	0	0	0	0	0	51	61	0	7
OMS-1	223	110	9	101	3	110	62	33	6	0	0	0	9	0	0	0	0	0	51	52	0	6
OMS-2	96	22	8	14	2	72	3	6	5	0	0	0	8	0	0	0	0	0	3	6	0	5

**Areal Exposure (ppb-hrs-sq. km) >100 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.	.6E+08 2.	4E+08 4.	2.00E+07	1.80E+08	5.3E+07 6.	3.00E+07	8.30E+07	5.30E+07	2.20E+07	3.10E+05	9.10E+05	0.00E+00	5.40E+06	1.60E+06	3.20E+07	2.80E+05	0.00E+00	0.00E+00	8.10E+07	7.30E+07	3.00E+07	1.50E+07
OMS-1	.5E+08 2.	3E+08 4.	0.00E+00	1.80E+08	5.3E+07 6.	3.00E+07	8.20E+07	5.20E+07	2.20E+07	2.90E+05	8.90E+05	0.00E+00	5.00E+06	1.60E+06	3.00E+07	2.30E+05	0.00E+00	0.00E+00	8.00E+07	7.30E+07	2.90E+07	1.40E+07
OMS-2	.1E+08 1.	3E+08 3.	0.00E+00	9.10E+07	3.6E+07 4.	5.00E+07	4.30E+07	3.50E+07	8.70E+06	3.70E+04	1.90E+04	0.00E+00	3.50E+06	7.90E+05	2.50E+07	1.00E+05	0.00E+00	0.00E+00	4.40E+07	4.60E+07	1.20E+07	6.50E+06

**Areal Exposure (ppb-hrs-sq. km) >124 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.	.0E+07 2.	7E+07 4.	1.00E+06	2.30E+07	2.5E+06 1.	1.00E+07	1.10E+07	1.10E+07	1.20E+06	0.00E+00	0.00E+00	0.00E+00	7.90E+05	1.60E+05	3.10E+06	0.00E+00	0.00E+00	0.00E+00	1.20E+07	1.30E+07	1.30E+06	1.20E+06
OMS-1	.9E+07 2.	6E+07 3.	6.00E+06	2.20E+07	2.4E+06 1.	1.00E+07	1.00E+07	1.00E+07	1.10E+06	0.00E+00	0.00E+00	0.00E+00	6.50E+05	1.60E+05	2.80E+06	0.00E+00	0.00E+00	0.00E+00	1.10E+07	1.20E+07	1.20E+06	1.10E+06
OMS-2	.8E+07 8.	6E+06 1.	2.00E+06	7.20E+06	1.4E+06 8.	2.00E+06	2.90E+06	3.60E+06	7.00E+05	0.00E+00	0.00E+00	0.00E+00	4.90E+05	1.20E+05	5.70E+05	0.00E+00	0.00E+00	0.00E+00	2.80E+06	4.30E+06	2.00E+05	7.00E+05

**Weighted Sum of Differences >100 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.																						
OMS-1	-0.2	-0.3	-0.8	-0.2	-0.2	-0.1	-0.1	-0.4	-0.3	-0.4	-0.1	0	-0.8	-0.4	-0.8	-0.9	0	0	-0.2	-0.3	-0.2	-0.4
OMS-2	-7.1	-8.2	-5	-9	-4.5	-4.4	-9	-8.8	-7.5	-12.3	-14.7	0	-4.5	-7.3	-4.7	-6.3	0	0	-9.1	-8.8	-8.6	-6.7

**Weighted Sum of Differences >124 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.																						
OMS-1	-0.4	-0.5	-0.8	-0.4	-0.4	-0.2	-0.2	-0.5	-1	0	0	0	-1.2	-1.1	-0.7	0	0	0	-0.2	-0.5	-0.3	-1
OMS-2	-8.4	-9.4	-8.6	-9.5	-5.9	-4.6	-10.4	-9.3	-3.4	0	0	0	-6.4	-4.2	-9.2	0	0	0	-10.2	-9.4	-9.9	-3.4

**Average Difference where base is above 100 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.																						
OMS-1	-0.4	-0.4	-0.8	-0.4	-0.4	-0.2	-0.2	-0.5	-1	0	0	0	-1.2	-1.1	-0.7	0	0	0	-0.2	-0.5	-0.3	-1
OMS-2	-8.4	-9.4	-8.6	-9.5	-5.9	-4.5	-10.3	-9.3	-3.4	0	0	0	-6.5	-4.3	-9.2	0	0	0	-10.2	-9.4	-9.9	-3.4

**OTAG Metrics for July 1991 Episode**

**Average Difference where base is above 124 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC	
SNPR Bud.																							
OMS-1	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	0	0	0	-0.1	0	-0.3	-0.4	-0.1	0	-0.1	-0.2	-0.1	-0.1	
OMS-2	-2.7	-3.8	-2.9	-4.2	-2.1	-2.1	-5.8	-5.1	-6.5	-5.9	-5.3	-4.8	-4.3	-3.4	-2.2	-3.3	-4.6	-5.3	-5.5	-5.7	-6.8	-6.3	

**Average Difference where control is above 100 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC	
SNPR Bud.																							
OMS-1	-0.2	-0.3	-0.7	-0.2	-0.1	-0.1	-0.1	-0.4	-0.3	-0.4	-0.1	0	-0.7	-0.4	-0.8	-0.9	0	0	-0.2	-0.3	-0.2	-0.3	
OMS-2	-6.5	-7.7	-4.4	-8.8	-3.7	-4.2	-9.3	-8.7	-6.3	-12.5	-15.6	0	-3.4	-5.6	-4.4	-6	0	0	-9.2	-8.8	-8.2	-5.3	

**Average Difference where control is above 124 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC	
SNPR Bud.																							
OMS-1	-0.4	-0.4	-0.8	-0.4	-0.4	-0.2	-0.2	-0.5	-0.8	0	0	0	-1.3	-1.1	-0.7	0	0	0	-0.2	-0.5	-0.3	-0.8	
OMS-2	-6.8	-8.1	-4.4	-8.6	-4.5	-4.5	-11.1	-7.4	-1.6	0	0	0	-5.6	-4.3	-3.7	0	0	0	-10.9	-8.1	-3.1	-1.6	

**Number of grid cells where Base is above and control is below 100 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC	
SNPR Bud.																							
OMS-1	43	38	21	15	4	2	8	2	2	1	1	0	7	0	11	0	0	0	8	4	4	2	
OMS-2	1236	864	143	613	126	141	248	81	137	5	13	0	29	13	72	2	0	0	207	129	162	95	

**Number of grid cells where Base is above and control is below 124 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC	
SNPR Bud.																							
OMS-1	19	17	6	11	1	1	5	4	2	0	0	0	2	0	4	0	0	0	5	6	2	2	
OMS-2	281	257	56	195	14	16	101	83	7	0	0	0	5	0	51	0	0	0	128	95	18	7	

**# Grid Cells in Subdomain with Max Difference <= -4 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC	
SNPR Bud.																							
OMS-1	2	2	2	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	
OMS-2	51284	38592	13821	16048	14678	3931	2556	2224	2403	1133	1375	1630	2316	512	703	523	1428	2691	2581	1847	1962	1997	

**# Grid Cells in Subdomain with Max Difference <= -12 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC	
SNPR Bud.																							
OMS-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
OMS-2	451	451	13	336	102	0	63	56	30	26	49	0	0	5	8	0	0	26	62	68	44	9	

**# Grid Cells in Subdomain with Max Difference <= -28 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC	
SNPR Bud.																							
OMS-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
OMS-2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

**# Grid Cells in Subdomain with Max Difference < -12 to -6 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC	
SNPR Bud.																							
OMS-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
OMS-2	16220	13543	2237	6834	5079	511	1461	1030	1530	527	662	469	492	125	153	77	327	1136	1403	1090	1327	1211	



**OTAG Metrics for July 1991 Episode**

**# Grid Cells in Subdomain with Max Difference < -6 to -4 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.																						
OMS-1	2	2	2	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
OMS-2	34613	24598	11571	8878	9497	3420	1032	1138	843	580	664	1161	1824	382	542	446	1101	1529	1116	689	591	777

**# Grid Cells in Subdomain with Max Difference < -4 to -2 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.																						
OMS-1	89	88	75	12	2	0	0	3	5	1	0	1	17	0	44	2	1	0	1	3	0	5
OMS-2	72209	32659	30366	15933	14828	8037	765	1020	144	185	666	594	1398	1275	1120	656	539	908	1008	589	143	116

**# Grid Cells in Subdomain with Max Difference < -2 to 2 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.																						
OMS-1	204137	90330	60187	36816	69658	24300	3468	3525	2587	1349	2112	2267	3870	2052	3034	1426	2069	3720	3743	2643	2160	2155
OMS-2	80277	18734	15714	4758	40148	12332	139	249	32	24	71	40	141	262	1028	200	103	121	130	167	44	34

**# Grid Cells in Subdomain with Max Difference < 2 to 4 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.																						
OMS-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OMS-2	206	184	150	52	4	0	8	16	6	3	0	2	11	3	73	23	0	0	19	24	6	6

**# Grid Cells in Subdomain with Max Difference < 4 to 6 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.																						
OMS-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OMS-2	107	106	90	17	0	0	0	8	1	2	0	0	10	0	55	19	0	0	3	8	3	1

**# Grid Cells in Subdomain with Max Difference < 6 to 12 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.																						
OMS-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OMS-2	129	129	111	16	2	0	0	10	4	2	0	2	9	0	90	7	0	0	3	10	2	4

**# Grid Cells in Subdomain with Max Difference >=12 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.																						
OMS-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OMS-2	16	16	12	4	0	0	0	1	2	1	0	0	3	0	9	0	0	0	0	1	0	2

**# Grid Cells in Subdomain with Max Difference >=4 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.																						
OMS-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OMS-2	252	251	213	37	2	0	0	19	7	5	0	2	22	0	154	26	0	0	6	19	5	7

**# Grid Cells with <-12 ppb decrease and Base is >100 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.																						
OMS-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OMS-2	240	240	11	202	27	0	57	50	8	3	12	0	0	3	8	0	0	0	56	64	25	2

**OTAG Metrics for July 1991 Episode**

**# Grid Cells with <-12 ppb decrease and Base is >124 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC	
SNPR Bud.																							
OMS-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OMS-2	80	80	8	69	3	0	39	26	0	0	0	0	0	0	8	0	0	0	39	34	8	0	

**# Grid Cells with <-6 ppb decrease and Base is >100 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC	
SNPR Bud.																							
OMS-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OMS-2	2162	1829	197	1470	88	133	745	314	217	6	14	0	27	18	119	2	0	0	711	465	280	145	

**# Grid Cells with <-6 ppb decrease and Base is >124 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC	
SNPR Bud.																							
OMS-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OMS-2	355	342	55	280	8	12	155	114	7	0	0	0	7	0	48	0	0	0	181	135	19	7	

**# Grid Cells with <-4 ppb decrease and Base is >100 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC	
SNPR Bud.																							
OMS-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OMS-2	2648	2118	356	1582	186	250	784	362	242	6	14	0	48	19	244	4	0	0	760	519	305	167	

**# Grid Cells with <-4 ppb decrease and Base is >124 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC	
SNPR Bud.																							
OMS-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OMS-2	435	375	64	302	20	49	158	129	11	0	0	0	8	1	55	0	0	0	186	151	20	11	

**# Grid Cells with <-2 ppb decrease and Base is >100 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC	
SNPR Bud.																							
OMS-1	51	51	45	5	1	0	0	0	5	0	0	0	5	0	40	0	0	0	0	0	0	5	
OMS-2	3191	2235	415	1627	376	499	795	380	258	6	14	0	62	21	283	4	0	0	769	544	314	182	

**# Grid Cells with <-2 ppb decrease and Base is >124 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC	
SNPR Bud.																							
OMS-1	5	5	2	3	0	0	0	0	3	0	0	0	1	0	1	0	0	0	0	0	0	3	
OMS-2	490	391	67	314	31	78	160	137	13	0	0	0	9	2	56	0	0	0	188	161	20	13	

**# Grid Cells with <2 ppb increase and Base is >100 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC	
SNPR Bud.																							
OMS-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OMS-2	66	66	49	16	1	0	0	8	8	0	0	0	9	1	39	0	0	0	1	8	5	8	

**# Grid Cells with >2 ppb increase and Base is >124 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC	
SNPR Bud.																							
OMS-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OMS-2	12	12	7	5	0	0	0	1	4	0	0	0	1	0	6	0	0	0	0	1	1	4	

**OTAG Metrics for July 1991 Episode**

**# Grid Cells with >4 ppb increase and Base is >100 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC	
SNPR Bud.																							
OMS-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OMS-2	42	42	31	11	0	0	0	5	6	0	0	0	5	0	26	0	0	0	1	5	2	6	

**# Grid Cells with >4 ppb increase and Base is >124 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC	
SNPR Bud.																							
OMS-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OMS-2	7	7	5	2	0	0	0	0	2	0	0	0	0	5	0	0	0	0	0	0	0	2	

**# Grid Cells with >6 ppb increase and Base is >100 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC	
SNPR Bud.																							
OMS-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OMS-2	25	25	16	9	0	0	0	4	5	0	0	0	3	13	0	0	0	1	4	1	5		

**# Grid Cells with >6 ppb increase and Base is >124 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC	
SNPR Bud.																							
OMS-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OMS-2	7	7	5	2	0	0	0	0	2	0	0	0	0	5	0	0	0	0	0	0	0	2	

**OTAG Metrics for July 1993 Episode**

**Peak 1 hour ozone**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.	212	212	122	145	212	137	119	128	141	135	212	140	116	113	96	96	92	160	116	128	124	141
OMS-1	211	211	122	144	211	136	118	126	141	135	211	140	115	113	96	96	91	160	116	126	124	141
OMS-2	188	188	120	136	188	132	114	126	136	123	188	136	120	102	90	91	85	141	107	126	115	136

**Peak 1hr Total # of Grid Cells > 100 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.	1938	1653	60	653	1161	64	26	89	215	66	248	54	34	8	0	0	0	178	12	113	115	151
OMS-1	1933	1654	60	644	1166	63	26	84	213	65	250	54	34	8	0	0	0	182	11	109	112	150
OMS-2	933	804	28	336	531	38	12	60	113	31	127	30	18	4	0	0	0	60	5	72	53	92

**Peak 1hr Total # of Grid Cells > 120 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.	349	333	2	88	253	6	0	7	42	16	102	12	0	0	0	0	0	35	0	7	3	42
OMS-1	338	323	2	81	249	6	0	6	38	14	102	12	0	0	0	0	0	34	0	6	3	38
OMS-2	130	124	1	35	90	4	0	5	23	2	43	4	1	0	0	0	0	7	0	5	0	23

**Peak 1hr Total # of Grid Cells > 124 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.	244	237	0	60	180	4	0	3	28	11	84	7	0	0	0	0	0	23	0	3	1	28
OMS-1	241	234	0	59	178	4	0	2	28	11	83	6	0	0	0	0	0	23	0	2	1	28
OMS-2	96	92	0	25	69	2	0	2	19	0	36	3	0	0	0	0	0	4	0	2	0	19

**Peak 1hr Total # of Grid Cells > 140 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.	69	69	0	7	62	0	0	0	4	0	38	1	0	0	0	0	0	5	0	0	0	4
OMS-1	70	70	0	7	63	0	0	0	4	0	38	1	0	0	0	0	0	5	0	0	0	4
OMS-2	31	31	0	0	31	0	0	0	0	0	25	0	0	0	0	0	0	1	0	0	0	0

**Peak 8 hour ozone**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.	187	187	113	134	187	120	110	120	123	127	187	120	100	99	90	87	81	144	105	120	113	123
OMS-1	186	186	112	133	186	119	109	119	123	127	186	120	100	99	90	87	81	144	105	119	113	123
OMS-2	165	165	105	119	165	117	104	117	117	112	165	115	99	92	86	82	75	127	97	117	105	117

**Peak 8hr Total # of Grid Cells > 84 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.	4158	3128	212	1115	2644	187	88	134	315	92	374	125	78	17	24	2	0	387	61	182	189	207
OMS-1	4150	3134	209	1107	2651	183	86	131	312	91	380	126	77	16	24	2	0	393	59	180	186	204
OMS-2	2156	1567	102	682	1254	118	51	98	187	47	180	67	52	6	8	0	0	126	27	139	90	116

**Peak 8hr Total # of Grid Cells > 100 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.	856	707	6	267	557	26	11	30	63	25	151	23	1	0	0	0	0	81	3	41	24	46
OMS-1	847	700	6	259	556	26	9	26	62	25	152	22	1	0	0	0	0	81	3	35	24	45
OMS-2	316	253	2	72	228	14	2	19	17	9	66	11	0	0	0	0	0	18	0	21	2	17

**Peak 8hr Total # of Grid Cells >120 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.	119	116	0	23	95	1	0	1	4	3	50	2	0	0	0	0	0	12	0	1	0	4
OMS-1	117	115	0	22	95	0	0	0	4	3	50	2	0	0	0	0	0	12	0	0	0	4
OMS-2	43	42	0	0	43	0	0	0	0	0	26	0	0	0	0	0	0	2	0	0	0	0

**OTAG Metrics for July 1993 Episode**

**# of Grid Cells with Hours >100 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.	8622	7195	173	2630	5583	236	106	308	735	264	1498	213	88	21	0	0	0	760	41	412	352	518
OMS-1	8570	7168	170	2589	5577	234	98	292	723	260	1502	212	85	21	0	0	0	766	40	389	340	508
OMS-2	3649	3031	74	1106	2340	129	36	210	298	103	670	100	46	5	0	0	0	208	11	246	111	264

**# of Grid Cells with hours >120 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.	1301	1255	4	274	1007	16	0	22	90	44	500	31	0	0	0	0	0	117	0	22	4	90
OMS-1	1281	1237	4	261	1000	16	0	17	83	42	501	31	0	0	0	0	0	116	0	17	4	83
OMS-2	484	466	1	73	401	9	0	13	42	2	232	11	1	0	0	0	0	22	0	13	0	42

**# of Grid Cells with hours > 124 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.	940	920	0	173	757	10	0	7	58	24	411	19	0	0	0	0	0	81	0	7	1	58
OMS-1	932	913	0	172	751	9	0	6	57	23	409	16	0	0	0	0	0	79	0	6	1	57
OMS-2	339	330	0	44	290	5	0	4	33	0	190	6	0	0	0	0	0	12	0	4	0	33

**# of Grid Cells with hours > 140 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.	265	265	0	10	255	0	0	0	5	0	187	1	0	0	0	0	0	13	0	0	0	5
OMS-1	264	264	0	10	254	0	0	0	5	0	185	1	0	0	0	0	0	13	0	0	0	5
OMS-2	104	104	0	0	104	0	0	0	0	0	97	0	0	0	0	0	0	1	0	0	0	0

**Areal Exposure (ppb-hrs-sq. km) >100 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.	.8E+08 1	.5E+08 3.	3.00E+06	5.10E+07	1.2E+08 4.	8.00E+06	1.90E+06	5.80E+06	1.40E+07	5.30E+06	3.40E+07	4.30E+06	1.70E+06	3.90E+05	0.00E+00	0.00E+00	0.00E+00	1.60E+07	7.40E+05	7.70E+06	6.60E+06	1.00E+07
OMS-1	.8E+08 1	.5E+08 3.	2.00E+06	5.00E+07	1.2E+08 4.	8.00E+06	1.80E+06	5.50E+06	1.40E+07	5.20E+06	3.40E+07	4.30E+06	1.60E+06	3.90E+05	0.00E+00	0.00E+00	0.00E+00	1.60E+07	7.20E+05	7.20E+06	6.30E+06	1.00E+07
OMS-2	.5E+07 6	.2E+07 1.	4.00E+06	2.10E+07	5.0E+07 2.	6.00E+06	6.50E+05	3.90E+06	5.80E+06	2.00E+06	1.50E+07	2.00E+06	8.70E+05	9.10E+04	0.00E+00	0.00E+00	0.00E+00	4.20E+06	1.90E+05	4.60E+06	2.00E+06	5.20E+06

**Areal Exposure (ppb-hrs-sq. km) >124 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.	.4E+07 2	.4E+07 0.	0.00E+00	4.10E+06	2.0E+07 2.	4.00E+05	0.00E+00	1.50E+05	1.40E+06	5.60E+05	1.10E+07	4.50E+05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.00E+06	0.00E+00	1.50E+05	2.20E+04	1.40E+06
OMS-1	.4E+07 2	.4E+07 0.	0.00E+00	4.10E+06	2.0E+07 2.	1.00E+05	0.00E+00	1.30E+05	1.30E+06	5.40E+05	1.10E+07	3.80E+05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.00E+06	0.00E+00	1.30E+05	2.20E+04	1.30E+06
OMS-2	.8E+06 8	.6E+06 0.	0.00E+00	1.00E+06	7.7E+06 1.	2.00E+05	0.00E+00	8.70E+04	7.60E+05	0.00E+00	5.20E+06	1.40E+05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.90E+05	0.00E+00	8.70E+04	0.00E+00	7.60E+05

**Weighted Sum of Differences >100 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.																						
OMS-1	-0.1	-0.1	-0.3	-0.2	-0.1	-0.1	-0.7	-0.8	-0.2	-0.1	0	-0.2	-0.5	-0.2	0	0	0	0.1	-0.6	-0.8	-0.3	-0.3
OMS-2	-9.9	-10.6	-5.8	-8.2	-11.4	-4.4	-5.9	-4.8	-7.5	-12.2	-15.7	-7.5	-4.8	-9	0	0	0	-13.8	-7.3	-5	-7.3	-7.4

**Weighted Sum of Differences >124 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.																						
OMS-1	-0.2	-0.2	0	-0.3	-0.1	-0.4	0	-1.5	-0.5	-0.2	-0.1	-0.4	0	0	0	0	0	0	0	-1.5	-0.4	-0.5
OMS-2	-14.5	-14.7	0	-10.7	-15.9	-5.6	0	-3.9	-7.2	-14.7	-17.9	-7.4	0	0	0	0	0	-17.2	0	-3.9	-9	-7.2

**Average Difference where base is above 100 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.																						
OMS-1	-0.2	-0.2	0	-0.3	-0.1	-0.4	0	-1.5	-0.5	-0.2	-0.1	-0.4	0	0	0	0	0	0	0	-1.5	-0.4	-0.5
OMS-2	-14.2	-14.4	0	-10.7	-15.5	-5.6	0	-3.9	-7.2	-14.7	-17.4	-7.4	0	0	0	0	0	-17.2	0	-3.9	-9	-7.2

**OTAG Metrics for July 1993 Episode**

**Average Difference where base is above 124 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.																						
OMS-1	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	-0.1	0.1	0	-0.1	0	-0.2	-0.4	-0.1	0.1	-0.1	-0.2	-0.2	-0.1
OMS-2	-2.3	-3.4	-2	-2.7	-2.9	-1.6	-2.4	-3	-4.4	-5.6	-9.9	-4.4	-3	-3.2	-1.5	-1.4	-3.1	-8.1	-2.4	-2.8	-3.8	-4.2

**Average Difference where control is above 100 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.																						
OMS-1	-0.1	-0.1	-0.3	-0.2	-0.1	-0.1	-0.7	-0.8	-0.2	-0.1	0	-0.2	-0.5	-0.2	0	0	0	0.1	-0.6	-0.8	-0.3	-0.3
OMS-2	-9.2	-9.8	-5.1	-7.8	-10.6	-4.2	-5.6	-2.8	-7.1	-12.2	-16.1	-7.6	-3	-9.1	0	0	0	-14.6	-7.1	-3.3	-7	-7.1

**Average Difference where control is above 124 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.																						
OMS-1	-0.2	-0.2	0	-0.3	-0.1	-0.4	0	-1.5	-0.5	-0.2	-0.1	-0.2	0	0	0	0	0	0	0	-1.5	-0.4	-0.5
OMS-2	-12.8	-13.2	0	-7.3	-14.9	-5.2	0	-2.5	-5.9	0	-18.1	-3.5	0	0	0	0	0	-15.7	0	-2.5	0	-5.9

**Number of grid cells where Base is above and control is below 100 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.																						
OMS-1	16	10	0	9	6	1	0	5	2	1	0	0	0	0	0	0	0	0	1	4	3	1
OMS-2	1017	861	35	326	630	26	14	37	103	35	121	24	19	4	0	0	0	118	7	49	64	60

**Number of grid cells where Base is above and control is below 124 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.																						
OMS-1	3	3	0	1	2	0	0	1	0	0	1	1	0	0	0	0	0	0	0	1	0	0
OMS-2	150	147	0	37	111	2	0	2	10	11	48	4	0	0	0	0	0	19	0	2	1	10

**# Grid Cells in Subdomain with Max Difference <= -4 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.																						
OMS-1	9	9	9	0	0	0	0	0	0	0	0	0	1	0	0	8	0	0	0	0	0	0
OMS-2	49252	37659	8300	11331	27200	2072	692	1186	1768	1181	2739	1588	1319	732	228	191	820	4725	767	922	1253	1377

**# Grid Cells in Subdomain with Max Difference <= -12 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.																						
OMS-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OMS-2	1836	1805	6	124	1706	0	0	1	1	57	736	10	1	4	0	0	0	400	0	0	1	2

**# Grid Cells in Subdomain with Max Difference <= -28 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.																						
OMS-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OMS-2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

**# Grid Cells in Subdomain with Max Difference < -12 to -6 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.																						
OMS-1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
OMS-2	19819	16141	1300	3825	14428	266	154	359	710	617	1708	418	163	182	9	6	131	3430	208	286	494	579

**OTAG Metrics for July 1993 Episode**

**# Grid Cells in Subdomain with Max Difference < -6 to -4 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.																						
OMS-1	8	8	8	0	0	0	0	0	0	0	0	0	1	0	0	7	0	0	0	0	0	0
OMS-2	27597	19713	6994	7382	11066	1806	538	826	1057	507	295	1160	1155	546	219	185	689	895	559	636	758	796

**# Grid Cells in Subdomain with Max Difference < -4 to -2 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.																						
OMS-1	114	107	95	16	3	0	0	12	0	0	0	2	24	0	6	43	0	0	0	12	1	0
OMS-2	79455	42933	29919	18897	16805	10370	1857	2368	1377	535	72	1279	2764	1207	1488	604	1164	214	1943	1552	1162	1153

**# Grid Cells in Subdomain with Max Difference < -2 to 2 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.																						
OMS-1	272181	120444	80248	49088	92877	32400	4624	4692	3456	1800	2816	3022	5159	2736	4098	1853	2760	4960	4992	3516	2879	2880
OMS-2	142708	39141	41580	18578	48858	19937	2051	1024	305	77	5	153	1040	794	2172	994	774	21	2251	928	398	344

**# Grid Cells in Subdomain with Max Difference < 2 to 4 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.																						
OMS-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OMS-2	477	429	284	163	15	15	17	64	3	4	0	2	27	1	107	50	2	0	21	64	32	3

**# Grid Cells in Subdomain with Max Difference < 4 to 6 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.																						
OMS-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OMS-2	220	212	132	82	1	5	5	30	2	1	0	1	18	2	52	23	0	0	8	30	18	2

**# Grid Cells in Subdomain with Max Difference < 6 to 12 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.																						
OMS-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OMS-2	165	160	115	48	1	1	2	27	1	2	0	1	14	0	52	28	0	0	2	27	14	1

**# Grid Cells in Subdomain with Max Difference >=12 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.																						
OMS-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OMS-2	27	26	22	5	0	0	0	5	0	0	0	0	2	0	5	14	0	0	0	5	3	0

**# Grid Cells in Subdomain with Max Difference >=4 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.																						
OMS-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OMS-2	412	398	269	135	2	6	7	62	3	3	0	2	34	2	109	65	0	0	10	62	35	3

**# Grid Cells with <-12 ppb decrease and Base is >100 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.																						
OMS-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OMS-2	603	597	0	71	532	0	0	0	1	28	201	6	0	0	0	0	0	119	0	0	0	1

**OTAG Metrics for July 1993 Episode**

**# Grid Cells with <-12 ppb decrease and Base is >124 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.																						
OMS-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OMS-2	167	167	0	27	140	0	0	0	1	8	74	1	0	0	0	0	0	20	0	0	0	1

**# Grid Cells with <-6 ppb decrease and Base is >100 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.																						
OMS-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OMS-2	1538	1400	34	553	946	5	11	47	176	65	245	33	18	8	0	0	0	174	9	56	91	123

**# Grid Cells with <-6 ppb decrease and Base is >124 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.																						
OMS-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OMS-2	215	213	0	51	163	1	0	1	21	11	81	4	0	0	0	0	0	23	0	1	1	21

**# Grid Cells with <-4 ppb decrease and Base is >100 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.																						
OMS-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OMS-2	1751	1541	50	614	1046	41	26	63	203	65	245	50	25	8	0	0	0	178	11	87	108	141

**# Grid Cells with <-4 ppb decrease and Base is >124 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.																						
OMS-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OMS-2	230	224	0	55	171	4	0	1	25	11	81	5	0	0	0	0	0	23	0	1	1	25

**# Grid Cells with <-2 ppb decrease and Base is >100 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.																						
OMS-1	8	8	2	5	1	0	0	5	0	0	0	1	2	0	0	0	0	0	0	5	0	0
OMS-2	1864	1600	55	630	1119	60	26	73	208	66	245	52	29	8	0	0	0	178	12	97	114	144

**# Grid Cells with <-2 ppb decrease and Base is >124 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.																						
OMS-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OMS-2	238	231	0	58	176	4	0	3	26	11	81	7	0	0	0	0	0	23	0	3	1	26

**# Grid Cells with <2 ppb increase and Base is >100 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.																						
OMS-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OMS-2	30	30	5	24	1	0	0	21	3	0	0	1	5	0	0	0	0	0	0	21	2	3

**# Grid Cells with >2 ppb increase and Base is >124 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.																						
OMS-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OMS-2	3	3	0	3	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	1	0	2



**OTAG Metrics for July 1993 Episode**

**# Grid Cells with >4 ppb increase and Base is >100 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.																						
OMS-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OMS-2	16	16	3	12	1	0	0	10	2	0	0	1	3	0	0	0	0	0	0	10	0	2

**# Grid Cells with >4 ppb increase and Base is >124 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.																						
OMS-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OMS-2	2	2	0	2	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	0	1

**# Grid Cells with >6 ppb increase and Base is >100 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.																						
OMS-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OMS-2	9	9	1	8	0	0	0	7	1	0	0	0	1	0	0	0	0	0	0	7	0	1

**# Grid Cells with >6 ppb increase and Base is >124 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.																						
OMS-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OMS-2	2	2	0	2	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	0	1

**OTAG Metrics for July 1995 Episode**

**Peak 1 hour ozone**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cinci	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.	182	182	175	170	182	163	170	169	144	150	182	136	140	114	175	125	110	131	163	170	144	144
OMS-1	182	182	174	169	182	163	169	168	144	149	182	136	140	113	174	124	108	131	162	169	142	144
OMS-2	164	164	164	159	158	160	157	159	146	128	158	124	134	104	164	118	105	114	153	159	143	146

**Peak 1hr Total # of Grid Cells > 100 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cinci	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.	3728	2581	848	1201	796	616	311	211	345	80	184	64	90	17	547	44	3	36	258	262	291	283
OMS-1	3682	2546	833	1185	789	610	309	205	342	78	184	62	85	17	543	39	1	35	256	257	283	280
OMS-2	2249	1560	609	739	389	387	239	155	173	38	70	27	57	4	454	21	1	7	188	203	134	152

**Peak 1hr Total # of Grid Cells > 120 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cinci	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.	946	838	304	399	149	67	161	93	53	24	51	10	14	0	278	4	0	4	100	132	33	52
OMS-1	930	823	294	394	150	66	159	93	50	24	51	10	14	0	271	2	0	4	98	132	32	49
OMS-2	489	434	196	193	69	30	109	60	20	4	23	4	7	0	189	0	0	0	53	94	7	20

**Peak 1hr Total # of Grid Cells > 124 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cinci	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.	725	670	244	319	118	33	137	74	37	19	47	6	9	0	233	1	0	3	75	111	17	37
OMS-1	712	658	242	310	118	32	133	71	37	17	47	6	9	0	231	1	0	3	71	107	17	37
OMS-2	378	340	156	152	50	20	86	49	14	3	17	1	7	0	149	0	0	0	38	79	5	14

**Peak 1hr Total # of Grid Cells > 140 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cinci	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.	233	225	97	102	29	5	63	32	3	4	20	0	1	0	96	0	0	0	27	58	1	3
OMS-1	232	224	96	102	29	5	63	32	3	4	20	0	1	0	95	0	0	0	27	58	1	3
OMS-2	135	129	63	57	11	4	30	25	2	0	9	0	0	0	63	0	0	0	8	44	1	2

**Peak 8 hour ozone**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cinci	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.	162	162	157	151	162	146	151	148	124	127	162	131	128	100	157	113	101	114	144	151	122	124
OMS-1	161	161	156	150	161	145	150	148	124	126	161	131	127	99	156	112	100	114	144	150	122	124
OMS-2	150	150	150	140	144	144	139	140	122	110	144	120	122	91	150	109	97	99	135	140	115	122

**Peak 8hr Total # of Grid Cells > 84 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cinci	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.	8114	4745	1649	2209	2074	1693	437	321	642	142	260	160	215	52	712	150	20	96	352	367	598	488
OMS-1	8052	4702	1623	2187	2068	1685	432	319	640	142	262	161	210	52	709	145	18	96	347	365	597	486
OMS-2	4989	2682	1069	1236	1242	1168	316	220	348	63	135	75	117	11	638	71	6	14	260	264	324	284

**Peak 8hr Total # of Grid Cells > 100 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cinci	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.	2090	1495	517	694	429	306	230	139	139	34	112	28	27	1	423	17	1	6	167	186	119	125
OMS-1	2062	1471	506	680	428	305	229	134	133	33	113	25	25	0	420	13	1	6	165	181	112	120
OMS-2	1247	906	393	407	209	191	168	93	57	15	39	9	22	0	343	10	0	0	107	134	35	54

**Peak 8hr Total # of Grid Cells >120 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cinci	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.	476	441	199	197	64	13	111	51	4	7	27	2	5	0	193	0	0	0	57	85	1	4
OMS-1	465	432	194	193	63	12	111	49	3	6	27	2	4	0	189	0	0	0	57	83	1	3
OMS-2	246	225	136	76	26	8	50	25	1	0	12	1	3	0	133	0	0	0	21	50	0	1

**OTAG Metrics for July 1995 Episode**

**# of Grid Cells with Hours >100 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.	19711	13953	4973	6423	4075	2953	2121	1236	1328	332	992	269	332	42	3860	178	9	112	1573	1689	1152	1148
OMS-1	19479	13775	4873	6340	4059	2928	2111	1211	1304	322	1000	262	314	41	3814	157	4	110	1562	1664	1119	1131
OMS-2	11602	8278	3722	3633	1977	1782	1437	815	618	137	351	112	235	7	3133	91	3	20	986	1183	435	570

**# of Grid Cells with hours >120 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.	4330	3914	1704	1670	662	218	824	371	135	80	257	38	49	0	1629	8	0	11	456	619	68	133
OMS-1	4240	3836	1652	1648	654	211	817	368	128	78	259	34	47	0	1585	6	0	11	453	614	67	126
OMS-2	2270	2045	1142	735	282	110	453	231	43	8	101	11	30	0	1112	0	0	0	217	401	15	43

**# of Grid Cells with hours > 124 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.	3213	2990	1326	1265	481	115	668	293	85	54	219	22	34	0	1287	2	0	7	339	510	34	85
OMS-1	3122	2909	1277	1237	474	109	657	283	81	51	220	19	33	0	1240	1	0	7	333	497	32	81
OMS-2	1623	1492	848	534	175	66	327	178	24	5	78	2	22	0	826	0	0	0	150	314	8	24

**# of Grid Cells with hours > 140 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.	916	887	452	331	114	19	231	86	6	8	90	0	1	0	451	0	0	0	84	195	2	6
OMS-1	889	862	435	323	113	18	227	84	4	8	90	0	1	0	434	0	0	0	81	191	1	4
OMS-2	429	410	258	123	34	14	68	52	3	0	29	0	0	0	258	0	0	0	19	95	1	3

**Areal Exposure (ppb-hrs-sq. km) >100 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.	.0E+08 2.	8E+08 9.	8.00E+07	1.30E+08	8.7E+07 6.	3.00E+07	4.30E+07	2.50E+07	2.60E+07	6.80E+06	2.20E+07	5.40E+06	6.50E+06	7.80E+05	7.80E+07	3.20E+06	1.60E+05	2.20E+06	3.10E+07	3.50E+07	2.20E+07	2.20E+07
OMS-1	.9E+08 2.	8E+08 9.	6.00E+07	1.30E+08	8.7E+07 6.	2.00E+07	4.30E+07	2.40E+07	2.50E+07	6.60E+06	2.20E+07	5.30E+06	6.20E+06	7.60E+05	7.60E+07	2.80E+06	7.40E+04	2.20E+06	3.00E+07	3.40E+07	2.10E+07	2.20E+07
OMS-2	.3E+08 1.	6E+08 7.	3.00E+07	7.10E+07	4.2E+07 3.	8.00E+07	2.80E+07	1.60E+07	1.20E+07	2.70E+06	7.70E+06	2.20E+06	4.60E+06	1.30E+05	6.20E+07	1.60E+06	5.40E+04	4.00E+05	1.90E+07	2.40E+07	8.10E+06	1.10E+07

**Areal Exposure (ppb-hrs-sq. km) >124 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.	.6E+07 7.	1E+07 3.	1.00E+07	3.00E+07	1.2E+07 3.	0.00E+00	1.60E+07	6.90E+06	2.00E+06	1.30E+06	5.80E+06	5.20E+05	8.00E+05	0.00E+00	3.00E+07	4.20E+04	0.00E+00	1.70E+05	7.70E+06	1.20E+07	7.80E+05	2.00E+06
OMS-1	.4E+07 6.	9E+07 3.	0.00E+00	2.90E+07	1.2E+07 2.	8.00E+06	1.60E+07	6.70E+06	1.90E+06	1.20E+06	5.90E+06	4.50E+05	7.70E+05	0.00E+00	2.90E+07	2.10E+04	0.00E+00	1.70E+05	7.60E+06	1.20E+07	7.30E+05	1.90E+06
OMS-2	.8E+07 3.	5E+07 1.	9.00E+07	1.20E+07	4.5E+06 1.	7.00E+06	7.60E+06	4.20E+06	5.60E+05	1.20E+05	2.00E+06	4.60E+04	5.10E+05	0.00E+00	1.90E+07	0.00E+00	0.00E+00	0.00E+00	3.40E+06	7.40E+06	1.90E+05	5.60E+05

**Weighted Sum of Differences >100 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.																						
OMS-1	-0.2	-0.3	-0.4	-0.3	-0.1	-0.1	-0.3	-0.6	-0.3	-0.3	0	-0.3	-0.7	-0.1	-0.4	-0.9	-2	-0.1	-0.3	-0.6	-0.3	-0.3
OMS-2	-8.3	-9.4	-7	-9.5	-9.7	-5.1	-10.3	-7.4	-7.7	-13.7	-15.6	-9.5	-4	-9.2	-7.4	-6.8	-4.7	-13.5	-8.8	-8.2	-7.9	-7.6

**Weighted Sum of Differences >124 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.																						
OMS-1	-0.4	-0.4	-0.5	-0.4	-0.2	-0.4	-0.4	-0.8	-0.5	-0.4	-0.1	-0.7	-0.5	0	-0.5	-0.5	0	-0.3	-0.3	-0.7	-0.5	-0.5
OMS-2	-10.3	-10.7	-8.5	-11	-13.4	-5	-11.7	-7.7	-8.5	-17.8	-18.1	-9.5	-5.7	0	-8.6	-11.6	0	-17	-9.9	-9.1	-8.3	-8.5

**Average Difference where base is above 100 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.																						
OMS-1	-0.4	-0.4	-0.5	-0.4	-0.2	-0.4	-0.4	-0.8	-0.5	-0.4	-0.1	-0.7	-0.5	0	-0.5	-0.5	0	-0.3	-0.3	-0.7	-0.5	-0.5
OMS-2	-10.2	-10.7	-8.4	-10.9	-13.2	-5	-11.6	-7.7	-8.6	-17.7	-17.9	-9.5	-5.7	0	-8.5	-11.6	0	-17	-9.9	-9	-8.4	-8.6

**OTAG Metrics for July 1995 Episode**

**Average Difference where base is above 124 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC	
SNPR Bud.																							
OMS-1	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	-0.2	-0.1	0	0.1	0	-0.1	0	-0.3	-0.4	-0.2	0	-0.1	-0.2	-0.2	-0.1	
OMS-2	-2.9	-4	-2.6	-3.9	-2.9	-2.6	-3.8	-4.4	-6.2	-7.4	-8.7	-5.1	-3.7	-3.7	-3	-3.3	-4.3	-7.2	-3.7	-4.3	-5.6	-6.1	

**Average Difference where control is above 100 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC	
SNPR Bud.																							
OMS-1	-0.2	-0.3	-0.4	-0.3	0	-0.1	-0.3	-0.5	-0.3	-0.3	0	-0.2	-0.7	-0.1	-0.4	-0.8	-2	-0.1	-0.2	-0.5	-0.3	-0.3	
OMS-2	-7.8	-9	-6.8	-9.3	-8.4	-4.7	-10.5	-7.1	-7.3	-14.1	-16.9	-9.1	-3.3	-9.2	-7.4	-5.3	-5.7	-13.9	-9	-8.1	-7.4	-7.2	

**Average Difference where control is above 124 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC	
SNPR Bud.																							
OMS-1	-0.4	-0.4	-0.5	-0.4	-0.2	-0.3	-0.4	-0.8	-0.5	-0.3	-0.1	-0.7	-0.5	0	-0.5	-0.5	0	-0.3	-0.3	-0.7	-0.5	-0.5	
OMS-2	-9.2	-9.7	-8.4	-9.8	-11.5	-4.8	-12.2	-6	-6.4	-21.2	-19.9	-11.6	-5.2	0	-8.5	0	0	0	-9.9	-8.1	-5.7	-6.4	

**Number of grid cells where Base is above and control is below 100 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC	
SNPR Bud.																							
OMS-1	48	36	16	16	8	6	2	6	3	2	0	2	5	0	4	5	2	1	2	5	8	3	
OMS-2	1496	1038	254	464	407	229	73	56	173	42	114	37	35	13	106	23	2	29	71	59	158	132	

**Number of grid cells where Base is above and control is below 124 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC	
SNPR Bud.																							
OMS-1	13	12	2	9	0	1	4	3	0	2	0	0	0	2	0	0	0	4	4	4	0	0	
OMS-2	349	332	90	167	68	13	51	25	23	16	30	5	2	86	1	0	3	37	32	12	23		

**# Grid Cells in Subdomain with Max Difference <= -4 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC	
SNPR Bud.																							
OMS-1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
OMS-2	88396	61388	20307	23268	34035	8207	1994	3112	3364	1908	3009	2083	2351	1184	1664	838	1747	4911	2315	2203	2603	2754	

**# Grid Cells in Subdomain with Max Difference <= -12 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC	
SNPR Bud.																							
OMS-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
OMS-2	1523	1523	21	465	1037	0	81	31	40	117	468	22	0	9	1	0	242	12	55	10	40		

**# Grid Cells in Subdomain with Max Difference <= -28 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC	
SNPR Bud.																							
OMS-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
OMS-2	1	1	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	

**# Grid Cells in Subdomain with Max Difference < -12 to -6 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC	
SNPR Bud.																							
OMS-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
OMS-2	32584	26115	4027	9065	16821	1380	709	951	1921	1296	2020	1110	607	381	584	203	305	3512	742	778	1404	1615	

**OTAG Metrics for July 1995 Episode**

**# Grid Cells in Subdomain with Max Difference < -6 to -4 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.																						
OMS-1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OMS-2	54290	33751	16259	13739	16177	6827	1204	2130	1403	496	521	951	1744	803	1071	634	1442	1157	1561	1370	1189	1099

**# Grid Cells in Subdomain with Max Difference < -4 to -2 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.																						
OMS-1	146	143	127	15	2	2	0	1	1	7	0	1	17	0	66	32	2	0	0	1	0	1
OMS-2	91350	43727	32769	21348	20357	13050	2169	1820	437	83	158	1083	2557	1208	1456	744	1275	570	2231	1325	485	396

**# Grid Cells in Subdomain with Max Difference < -2 to 2 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.																						
OMS-1	306195	135486	90268	55227	104488	36448	5202	5291	3887	2018	3168	3401	5815	3078	4551	2110	3103	5580	5616	3968	3240	3239
OMS-2	125924	29913	36920	10370	50089	15186	983	257	75	23	1	234	896	686	1252	498	83	99	993	321	107	78

**# Grid Cells in Subdomain with Max Difference < 2 to 4 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.																						
OMS-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OMS-2	357	301	192	153	6	6	40	58	9	1	0	1	18	0	89	38	0	0	52	70	20	9

**# Grid Cells in Subdomain with Max Difference < 4 to 6 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.																						
OMS-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OMS-2	138	126	80	55	3	0	12	22	2	2	0	1	2	0	51	16	0	0	15	26	11	2

**# Grid Cells in Subdomain with Max Difference < 6 to 12 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.																						
OMS-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OMS-2	140	138	93	46	0	1	4	23	1	7	0	0	8	0	71	8	0	0	10	24	14	1

**# Grid Cells in Subdomain with Max Difference >=12 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.																						
OMS-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OMS-2	36	36	35	1	0	0	0	0	0	0	0	0	0	34	0	0	0	0	0	0	0	0

**# Grid Cells in Subdomain with Max Difference >=4 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.																						
OMS-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OMS-2	314	300	208	102	3	1	16	45	3	9	0	1	10	0	156	24	0	0	25	50	25	3

**# Grid Cells with <-12 ppb decrease and Base is >100 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
SNPR Bud.																						
OMS-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OMS-2	583	583	20	267	296	0	80	30	18	45	163	12	0	0	9	1	0	25	11	54	8	18

**OTAG Metrics for July 1995 Episode**

**# Grid Cells with <-12 ppb decrease and Base is >124 ppb**

SNPR Bud.	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
OMS-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OMS-2	229	229	10	145	74	0	64	22	7	15	46	1	0	0	9	0	0	3	2	42	0	7

**# Grid Cells with <-6 ppb decrease and Base is >100 ppb**

SNPR Bud.	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
OMS-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OMS-2	2525	2124	504	1051	503	200	303	153	283	73	184	59	22	17	391	23	0	35	248	203	246	232

**# Grid Cells with <-6 ppb decrease and Base is >124 ppb**

SNPR Bud.	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
OMS-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OMS-2	619	612	222	285	94	7	136	49	30	18	47	6	5	0	215	1	0	3	75	85	14	30

**# Grid Cells with <-4 ppb decrease and Base is >100 ppb**

SNPR Bud.	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
OMS-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OMS-2	3184	2425	773	1137	606	401	311	176	326	78	184	61	56	17	516	34	2	36	258	227	273	264

**# Grid Cells with <-4 ppb decrease and Base is >124 ppb**

SNPR Bud.	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
OMS-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OMS-2	665	636	234	297	102	21	137	55	34	19	47	6	7	0	225	1	0	3	75	92	16	34

**# Grid Cells with <-2 ppb decrease and Base is >100 ppb**

SNPR Bud.	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
OMS-1	18	18	11	6	1	0	0	1	1	2	0	1	5	0	2	4	2	0	0	1	0	1
OMS-2	3572	2499	805	1165	748	587	311	188	334	78	184	63	68	17	531	39	3	36	258	239	280	272

**# Grid Cells with <-2 ppb decrease and Base is >124 ppb**

SNPR Bud.	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
OMS-1	3	3	1	2	0	0	0	1	1	0	0	0	0	1	0	0	0	0	0	1	0	1
OMS-2	703	650	239	304	118	31	137	62	34	19	47	6	9	0	228	1	0	3	75	99	16	34

**# Grid Cells with <2 ppb increase and Base is >100 ppb**

SNPR Bud.	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
OMS-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OMS-2	39	39	23	15	1	0	1	9	3	2	0	1	2	0	21	0	0	0	1	9	3	3

**# Grid Cells with >2 ppb increase and Base is >124 ppb**

SNPR Bud.	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cincinnati	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC
OMS-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OMS-2	10	10	3	7	0	0	0	6	1	0	0	0	0	3	0	0	0	0	0	6	0	1

**OTAG Metrics for July 1995 Episode**

**# Grid Cells with >4 ppb increase and Base is >100 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cinci	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC	
SNPR Bud.																							
OMS-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OMS-2	27	27	20	7	0	0	1	3	1	2	0	0	2	0	18	0	0	0	1	3	0	1	

**# Grid Cells with >4 ppb increase and Base is >124 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cinci	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC	
SNPR Bud.																							
OMS-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OMS-2	4	4	2	2	0	0	0	2	0	0	0	0	0	2	0	0	0	0	0	2	0	0	

**# Grid Cells with >6 ppb increase and Base is >100 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cinci	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC	
07s9596D2-bg																							
SNPR Bud.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OMS-1	18	18	15	3	0	0	0	1	0	2	0	0	2	0	13	0	0	0	0	1	0	0	
OMS-2																							

**# Grid Cells with >6 ppb increase and Base is >124 ppb**

	OTAG Domain	Fine Grid	Midwest	Northeast	Southeast	Southwest	No. Corridor	Cn. Corridor	So. Corridor	Richmond	Atlanta	Nashville	Louis - Cinci	St. Louis	Lk. MI Area	Detroit	Pittsburgh	Charlotte	N. England	NYC	Philadelphia	Balti - DC	
SNPR Bud.																							
OMS-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OMS-2	2	2	1	1	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	1	0	0	