

Relative Impact of State and Source Category NOx Emissions on Downwind Monitors Identified Using the 2017 Cross State Air Pollution Rule Modeling Platform

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January 2016

Alpine Geophysics, LLC was tasked by the Midwest Ozone Group to develop an independent source apportionment modeling analysis and to compare the results of that study against published results from EPA’s proposed Cross State Air Pollution Rule (CSAPR). In our associated document¹, we have identified our methods and approaches and have provided the monitor level source apportionment results of our study.

This document furthers our review of the EPA modeling platform used in the proposed rule and develops relationships between our State-source category specific OSAT modeling and the seasonal NOx emissions used to develop the ozone concentrations. Using monthly, county and source category specific emissions published by EPA², we have developed relational “impact factors” using these data.

Modeling Platform Emissions

Because our OSAT modeling involved the delineation of certain source categories in aggregate, we needed to establish a consistent summary of NOx emissions for direct comparison and impact factor calculation. In review of the EPA 2017 modeling platform (2017eh_cb6v2_v6_11g), documented in the proposed rule air quality modeling TSD³ as the base case and used in our OSAT simulation, we aggregated certain source sectors from the platform into the categories used in our OSAT modeling. Table 1 provides the associations made in this aggregation.

Table 1. EPA emission categories and OSAT associations.

EPA Sector	OSAT Group
agfire	Bio/Fire
beis	Bio/Fire
c1c2rail	Area/Nonroad/MAR
c3marine	Area/Nonroad/MAR
nonpt	Area/Nonroad/MAR
nonroad	Area/Nonroad/MAR
np_oilgas	Area/Nonroad/MAR
onroad	Motor Vehicle
pt_oilgas	NonEGU Point
ptegu	EGU Point
ptnonipm	NonEGU Point
ptprescfire3D	Bio/Fire
ptwildfire3D	Bio/Fire
rwc	Area/Nonroad/MAR

Table 2 provides a summary of the anthropogenic category May through September emissions by OSAT region and category when aggregated using the OSAT associations.

¹ “Independent, Sector-Specific Source Apportionment Modeling of the 2017 Cross State Air Pollution Rule Modeling Platform,” Alpine Geophysics, LLC, January 2016.

<http://www.midwestozonegroup.com/files/IndependentSector-SpecificSourceApportionmentModelingofthe2017CrossStateAirPollutionRuleModelingPlatform.pdf>

² ftp://ftp.epa.gov/EmisInventory/2011v6/v2platform/reports/2017eh_county_monthly_report.xlsx

³ http://www.epa.gov/sites/production/files/2015-11/documents/air_quality_modeling_tsd_proposed_rule.pdf

Table 2. EPA 2017eh May-September NOx emissions (tons) by OSAT region and category.

Region	EPA 2017eh May-Sept NOx Emissions (Tons)			
	EGU Point	NonEGU Point	Area/Nonroad /MAR	Motor Vehicle
AR	11,888	13,400	19,708	22,020
CT	493	1,105	8,635	7,404
DE	362	628	3,804	2,978
IL	15,706	24,668	62,005	45,832
IN	43,842	27,222	31,009	37,038
KY	38,968	11,456	30,276	25,817
MD	4,348	6,213	17,239	18,204
MI	32,167	21,867	36,775	40,628
MO	20,572	9,238	33,708	37,462
NC	21,929	15,711	24,715	35,488
NJ	4,001	4,544	21,484	22,647
NorthEast	2,730	10,171	33,674	26,600
NY	7,396	13,738	51,374	37,455
OH	29,599	21,280	44,802	64,435
OK	24,329	32,203	48,653	26,238
PA	50,870	23,734	58,085	41,920
SOUTH	80,999	124,628	233,395	210,502
TN	6,383	13,493	24,035	41,558
TX	66,585	95,670	189,701	114,242
VA/DC	10,438	14,251	30,088	34,992
WEST	180,994	167,883	482,745	395,802
WI	8,690	11,181	25,362	29,803
WV	25,582	9,678	20,288	9,327

Impact Factor Calculations

To these emissions, we made monitor-level associations to region-source category specific ozone concentration contributions as determined by our OSAT modeling. This resulting value we call the impact factor as it represents a relative contribution of modeled emissions (tons) to resultant ozone concentrations (in ppb).

$$\text{Impact Factor (ppb/ton)} = \text{OSAT Contribution (ppb)} / \text{Emissions (tons)}$$

A primary purpose for this calculation was to determine, at each monitor, from where and what source category, on a ppb per ton basis, we see the greatest relative contribution. In other words, which source category, and from what state, has the greatest per ton NOx contribution to the monitor’s modeled ozone concentrations.

After this calculation was conducted for each monitor, we normalized the results to the maximum individual state/category contributor, so that in our comparisons, we could easily identify the greatest ppb per ton state/source category and have an easy way of determining which categories have greater relative impact compared to all others.

In addition to recognizing the usefulness of this impact factor in determining which states and categories are the largest ppb/ton contributors to each monitor, the results may be used in assisting policy makers in the development of control strategies and their relative impact on ozone concentrations at various locations.

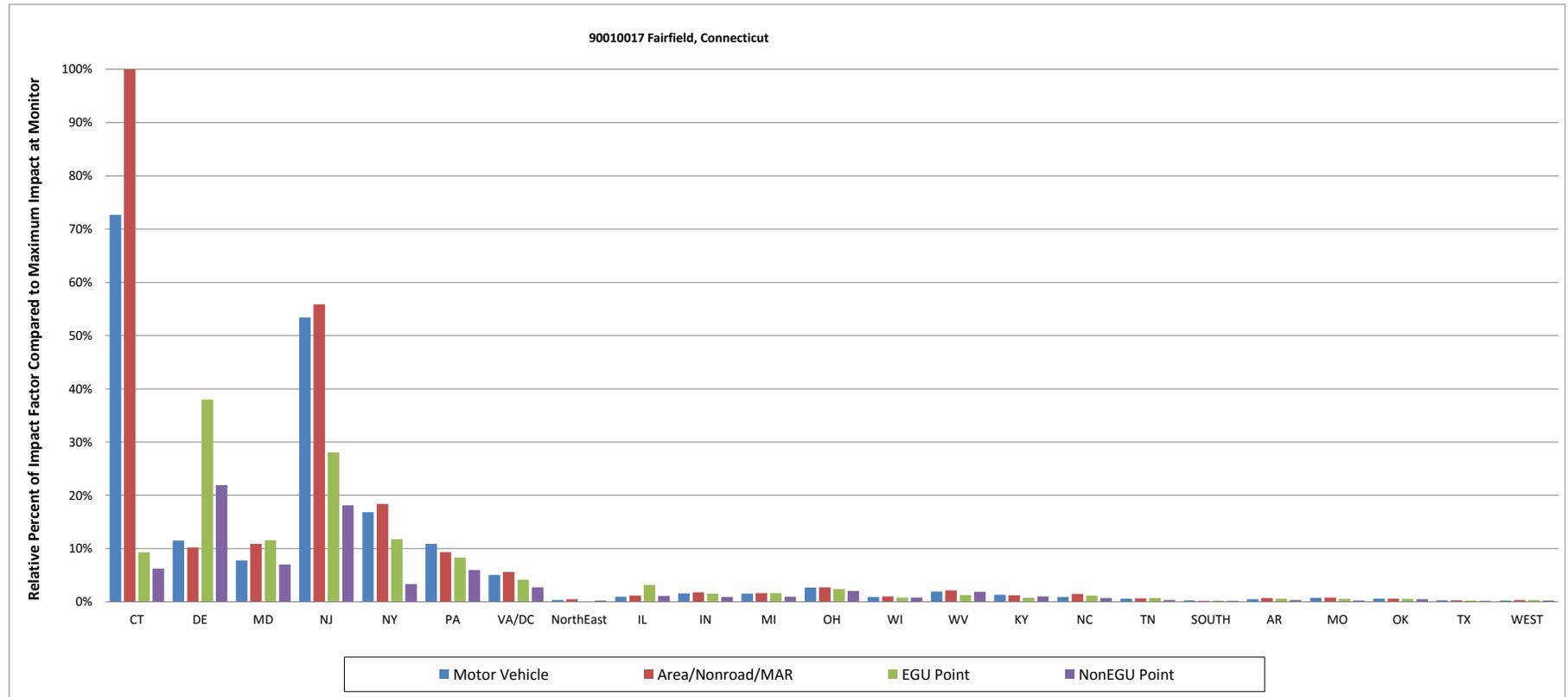
Resulting monitor-level, relative impact factors for the twenty-one eastern state proposed rule identified nonattainment and maintenance monitors are presented in the following tables.

Impact Factor Comparison Relative ppb/ton Impact for Anthropogenic Source Categories

Monitor 90010017 Fairfield, Connecticut 2017 OSAI Results (Modeled ppb) -- 75 ppb Threshold

Row Labels	Bio/Fire	Motor Vehicle	MAR	EGU Point	nEGU Point	Can/Mex/Water	Boundary	Initial	Total	of Total
BC	0.00	0.00	0.00	0.00	0.00	0.00	15.24	0.00	15.24	20%
IC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.03	0%
CT	4.55	2.06	3.31	0.02	0.03	0.00	0.00	0.00	9.97	13%
DE	0.12	0.13	0.15	0.05	0.05	0.00	0.00	0.00	0.51	1%
MD	0.65	0.54	0.72	0.19	0.17	0.00	0.00	0.00	2.27	3%
NJ	2.26	4.64	4.60	0.43	0.32	0.02	0.00	0.00	12.26	16%
NY	3.21	2.42	3.62	0.33	0.18	0.02	0.00	0.00	9.77	13%
PA	1.97	1.75	2.08	1.62	0.54	0.00	0.00	0.00	7.96	10%
VA/DC	0.83	0.68	0.65	0.17	0.15	0.00	0.00	0.00	2.47	3%
NorthEast	0.04	0.04	0.06	0.00	0.01	0.00	0.00	0.00	0.14	0%
IL	0.25	0.17	0.28	0.19	0.11	0.00	0.00	0.00	0.99	1%
IN	0.19	0.23	0.21	0.25	0.10	0.00	0.00	0.00	0.98	1%
MI	0.20	0.24	0.23	0.20	0.08	0.04	0.00	0.00	0.99	1%
OH	0.39	0.66	0.47	0.27	0.17	0.00	0.00	0.00	1.95	3%
WI	0.11	0.11	0.10	0.03	0.04	0.00	0.00	0.00	0.37	0%
WV	0.17	0.07	0.17	0.12	0.07	0.00	0.00	0.00	0.60	1%
KY	0.15	0.13	0.14	0.11	0.04	0.00	0.00	0.00	0.58	1%
NC	0.19	0.12	0.14	0.10	0.04	0.00	0.00	0.00	0.60	1%
TN	0.08	0.10	0.06	0.02	0.02	0.00	0.00	0.00	0.27	0%
SOUTH	0.24	0.24	0.18	0.07	0.10	0.00	0.00	0.00	0.83	1%
AR	0.10	0.04	0.05	0.03	0.02	0.00	0.00	0.00	0.24	0%
MO	0.16	0.11	0.11	0.04	0.01	0.00	0.00	0.00	0.42	1%
OK	0.13	0.06	0.11	0.05	0.06	0.00	0.00	0.00	0.42	1%
TX	0.19	0.12	0.22	0.06	0.06	0.01	0.00	0.00	0.67	1%
WEST	1.09	0.36	0.62	0.24	0.15	0.01	0.00	0.00	2.47	3%
Can/Mex/Water	0.54	0.00	0.25	0.00	0.00	2.02	0.00	0.00	2.81	4%
Grand Total	17.78	15.00	18.54	4.60	2.49	2.12	15.24	0.03	75.80	100%

Region	EPA 2017eh CSAPR Platform May-Sept NOx (tons)				Impact Factor (ppb/ton) from IPM 5.14 Base Case			
	Motor Vehicle	Area/Nonroad/MAR	EGU Point	NonEGU Point	Motor Vehicle	Area/Nonroad/MAR	EGU Point	NonEGU Point
CT	7,404	8,635	493	1,105	2.79E-04	3.83E-04	3.56E-05	2.38E-05
DE	2,978	3,804	362	628	4.42E-05	3.92E-05	1.46E-04	8.40E-05
MD	18,204	17,239	4,348	6,213	2.99E-05	4.18E-05	4.44E-05	2.69E-05
NJ	22,647	21,484	4,001	4,544	2.05E-04	2.14E-04	1.08E-04	6.96E-05
NY	37,455	51,374	7,396	13,738	6.45E-05	7.04E-05	4.51E-05	1.28E-05
PA	41,920	58,085	50,870	23,734	4.17E-05	3.58E-05	3.18E-05	2.29E-05
VA/DC	34,992	30,088	10,438	14,251	1.93E-05	2.16E-05	1.60E-05	1.05E-05
NorthEast	26,600	33,674	2,730	10,171	1.32E-06	1.83E-06	0.00E+00	8.64E-07
IL	45,832	62,005	15,706	24,668	3.64E-06	4.53E-06	1.23E-05	4.27E-06
IN	37,038	31,009	43,842	27,222	6.17E-06	6.80E-06	5.81E-06	3.55E-06
MI	40,628	36,775	32,167	21,867	5.84E-06	6.21E-06	6.28E-06	3.62E-06
OH	64,435	44,802	29,599	21,280	1.02E-05	1.04E-05	9.20E-06	7.84E-06
WI	29,803	25,362	8,690	11,181	3.54E-06	3.81E-06	3.03E-06	3.14E-06
WV	9,327	20,288	25,582	9,678	7.53E-06	8.23E-06	4.81E-06	7.26E-06
KY	25,817	30,276	38,968	11,456	5.10E-06	4.64E-06	2.93E-06	3.83E-06
NC	35,488	24,715	21,929	15,711	3.46E-06	5.69E-06	4.41E-06	2.80E-06
TN	41,558	24,035	6,383	13,493	2.32E-06	2.56E-06	2.75E-06	1.30E-06
SOUTH	210,502	233,395	80,999	124,628	1.13E-06	7.90E-07	8.67E-07	7.75E-07
AR	22,020	19,708	11,888	13,400	1.99E-06	2.67E-06	2.22E-06	1.31E-06
MO	37,462	33,708	20,572	9,238	2.81E-06	3.13E-06	2.13E-06	9.51E-07
OK	26,238	48,653	24,329	32,203	2.34E-06	2.35E-06	2.17E-06	1.91E-06
TX	114,242	189,701	66,585	95,670	1.08E-06	1.16E-06	9.23E-07	6.43E-07
WEST	395,802	482,745	180,994	167,883	9.10E-07	1.29E-06	1.31E-06	8.89E-07



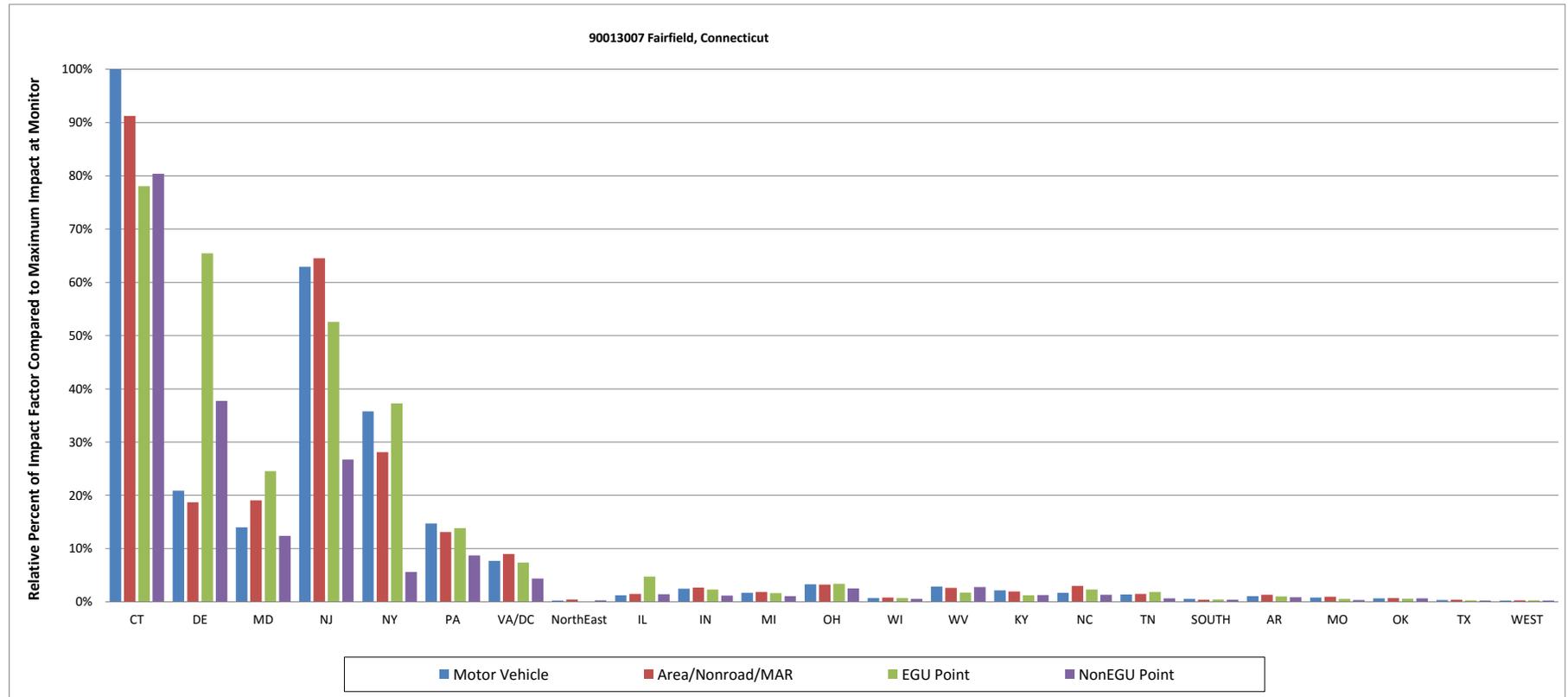
Impact Factor Comparison Relative ppb/ton Impact for Anthropogenic Source Categories

Monitor 90013007 Fairfield, Connecticut

2017 OSAI Results (Modeled ppb) -- 75 ppb Threshold

Row Labels	Area/NR/							Boundary	Initial	Total	of Total
	Bio/Fire	Motor Vehicle	MAR	EGU Point	nEGU Point	Can/Mex/Water					
BC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16.17	0.00	16.17	21%
IC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.04	0%
CT	0.93	2.22	2.37	0.12	0.27	0.00	0.00	0.00	0.00	5.91	8%
DE	0.19	0.19	0.21	0.07	0.07	0.01	0.00	0.00	0.00	0.74	1%
MD	0.83	0.77	0.99	0.32	0.23	0.00	0.00	0.00	0.00	3.13	4%
NJ	1.67	4.28	4.16	0.63	0.36	0.04	0.00	0.00	0.00	11.15	14%
NY	1.89	4.02	4.34	0.83	0.23	0.03	0.00	0.00	0.00	11.33	15%
PA	2.19	1.85	2.29	2.12	0.62	0.00	0.00	0.00	0.00	9.07	4%
VA/DC	0.86	0.81	0.81	0.23	0.19	0.00	0.00	0.00	0.00	2.90	4%
NorthEast	0.03	0.02	0.04	0.00	0.01	0.00	0.00	0.00	0.10	0%	
IL	0.24	0.17	0.28	0.22	0.11	0.00	0.00	0.00	1.01	1%	
IN	0.20	0.28	0.25	0.30	0.10	0.00	0.00	0.00	1.13	1%	
MI	0.17	0.20	0.20	0.16	0.07	0.04	0.00	0.00	0.85	1%	
OH	0.39	0.64	0.44	0.30	0.16	0.00	0.00	0.00	1.93	3%	
WI	0.06	0.06	0.06	0.02	0.02	0.00	0.00	0.00	0.22	0%	
WV	0.16	0.08	0.16	0.13	0.08	0.00	0.00	0.00	0.61	1%	
KY	0.19	0.17	0.18	0.14	0.04	0.00	0.00	0.00	0.72	1%	
NC	0.30	0.18	0.22	0.15	0.06	0.00	0.00	0.00	0.92	1%	
TN	0.13	0.17	0.11	0.04	0.03	0.00	0.00	0.00	0.47	1%	
SOUTH	0.36	0.36	0.27	0.11	0.14	0.00	0.00	0.00	1.25	2%	
AR	0.15	0.07	0.08	0.04	0.04	0.00	0.00	0.00	0.37	0%	
MO	0.15	0.09	0.10	0.04	0.01	0.00	0.00	0.00	0.38	0%	
OK	0.12	0.05	0.11	0.04	0.06	0.00	0.00	0.00	0.39	1%	
TX	0.20	0.12	0.23	0.06	0.07	0.01	0.00	0.00	0.69	1%	
WEST	0.88	0.28	0.44	0.17	0.12	0.01	0.00	0.00	1.90	2%	
Can/Mex/Water	0.52	0.00	0.45	0.00	0.00	2.76	0.00	0.00	3.73	5%	
Grand Total	12.82	17.07	18.79	6.24	3.09	2.88	16.17	0.04	77.10	100%	

Region	EPA 2017eh CSAPR Platform May-Sept NOx (tons)				Impact Factor (ppb/ton) from IPM 5.14 Base Case			
	Motor Vehicle	Area/Nonroad/MAR	EGU Point	NonEGU Point	Motor Vehicle	Area/Nonroad/MAR	EGU Point	NonEGU Point
CT	7,404	8,635	493	1,105	3.00E-04	2.74E-04	2.35E-04	2.42E-04
DE	2,978	3,804	362	628	6.27E-05	5.61E-05	1.97E-04	1.13E-04
MD	18,204	17,239	4,348	6,213	4.20E-05	5.73E-05	7.37E-05	3.72E-05
NJ	22,647	21,484	4,001	4,544	1.89E-04	1.94E-04	1.58E-04	8.03E-05
NY	37,455	51,374	7,396	13,738	1.07E-04	8.45E-05	1.12E-04	1.68E-05
PA	41,920	58,085	50,870	23,734	4.41E-05	3.94E-05	4.16E-05	2.62E-05
VA/DC	34,992	30,088	10,438	14,251	2.31E-05	2.69E-05	2.22E-05	1.31E-05
NorthEast	26,600	33,674	2,730	10,171	6.69E-07	1.32E-06	0.00E+00	8.75E-07
IL	45,832	62,005	15,706	24,668	3.69E-06	4.45E-06	1.42E-05	4.33E-06
IN	37,038	31,009	43,842	27,222	7.45E-06	8.03E-06	6.90E-06	3.60E-06
MI	40,628	36,775	32,167	21,867	5.04E-06	5.56E-06	4.98E-06	3.25E-06
OH	64,435	44,802	29,599	21,280	9.94E-06	9.73E-06	1.02E-05	7.53E-06
WI	29,803	25,362	8,690	11,181	2.09E-06	2.46E-06	2.05E-06	1.59E-06
WV	9,327	20,288	25,582	9,678	8.58E-06	7.89E-06	5.22E-06	8.27E-06
KY	25,817	30,276	38,968	11,456	6.55E-06	5.88E-06	3.65E-06	3.88E-06
NC	35,488	24,715	21,929	15,711	5.01E-06	9.00E-06	6.90E-06	3.96E-06
TN	41,558	24,035	6,383	13,493	4.07E-06	4.44E-06	5.58E-06	1.98E-06
SOUTH	210,502	233,395	80,999	124,628	1.73E-06	1.14E-06	1.32E-06	1.14E-06
AR	22,020	19,708	11,888	13,400	3.23E-06	4.06E-06	2.99E-06	2.66E-06
MO	37,462	33,708	20,572	9,238	2.37E-06	2.90E-06	1.73E-06	9.63E-07
OK	26,238	48,653	24,329	32,203	2.03E-06	2.19E-06	1.83E-06	1.93E-06
TX	114,242	189,701	66,585	95,670	1.01E-06	1.22E-06	9.35E-07	7.44E-07
WEST	395,802	482,745	180,994	167,883	6.97E-07	9.21E-07	9.34E-07	6.89E-07

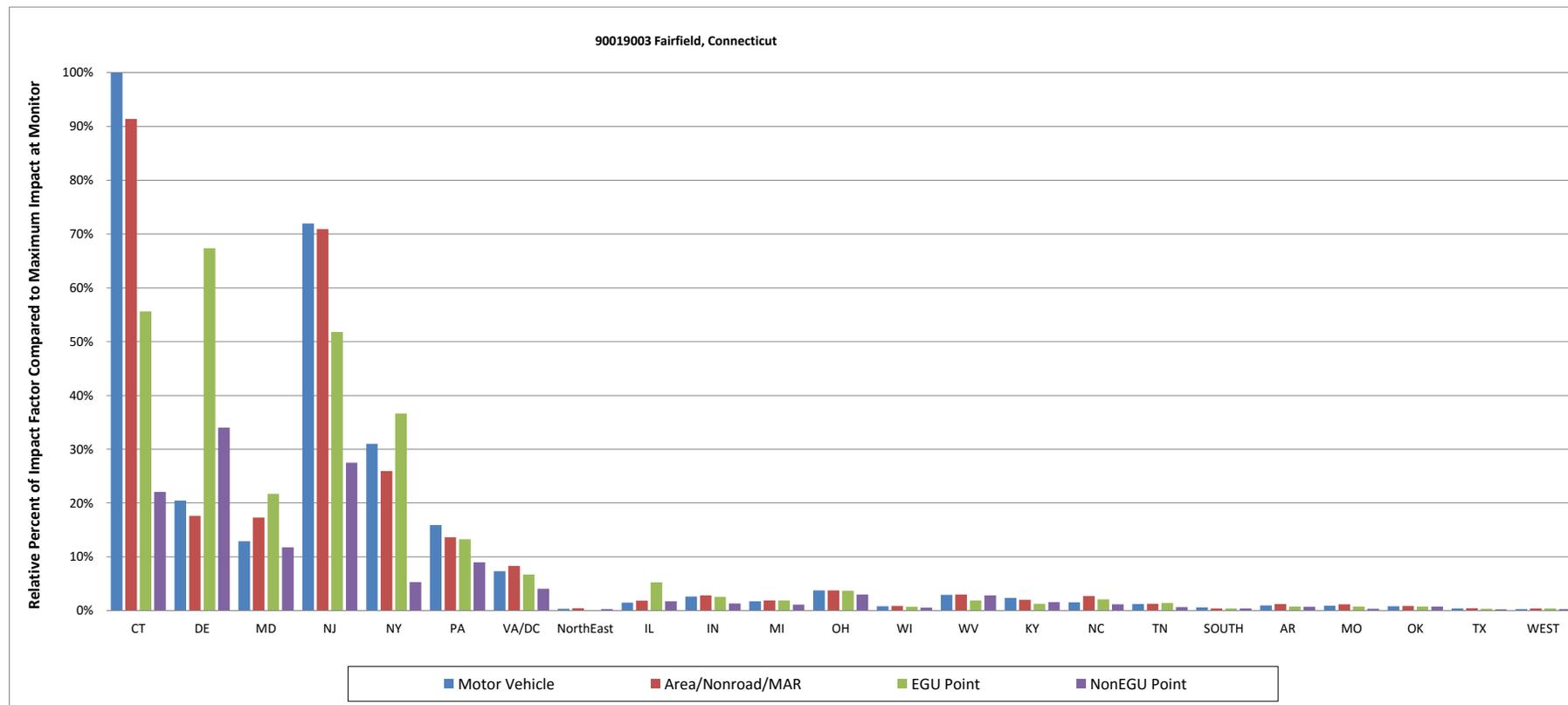


Impact Factor Comparison Relative ppb/ton Impact for Anthropogenic Source Categories

Monitor **90019003** Fairfield, Connecticut **2017 OSAI Results (Modeled ppb) -- 75 ppb Threshold**

Row Labels	Area/NR/							Boundary	Initial	Total	of Total
	Bio/Fire	Motor Vehicle	MAR	EGU Point	nEGU Point	Can/Mex/Water					
BC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16.61	0.00	16.61	21%
IC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.04	0%
CT	1.11	2.21	2.35	0.08	0.07	0.00	0.00	0.00	0.00	5.82	7%
DE	0.16	0.18	0.20	0.07	0.06	0.01	0.00	0.00	0.00	0.69	1%
MD	0.76	0.70	0.89	0.28	0.22	0.00	0.00	0.00	0.00	2.85	4%
NJ	1.89	4.86	4.54	0.62	0.37	0.03	0.00	0.00	0.00	12.30	16%
NY	2.02	3.46	3.97	0.81	0.22	0.02	0.00	0.00	0.00	10.50	13%
PA	2.16	1.99	2.36	2.02	0.64	0.00	0.00	0.00	0.00	9.16	12%
VA/DC	0.85	0.76	0.74	0.21	0.17	0.00	0.00	0.00	0.00	2.74	4%
NorthEast	0.03	0.03	0.05	0.00	0.01	0.00	0.00	0.00	0.00	0.11	0%
IL	0.28	0.20	0.34	0.25	0.13	0.00	0.00	0.00	0.00	1.19	2%
IN	0.24	0.29	0.26	0.34	0.11	0.00	0.00	0.00	0.00	1.23	2%
MI	0.17	0.21	0.21	0.18	0.07	0.04	0.00	0.00	0.00	0.88	1%
OH	0.43	0.73	0.50	0.33	0.19	0.00	0.00	0.00	0.00	2.17	3%
WI	0.07	0.07	0.06	0.02	0.02	0.00	0.00	0.00	0.00	0.25	0%
WV	0.17	0.08	0.18	0.15	0.08	0.00	0.00	0.00	0.00	0.66	1%
KY	0.20	0.18	0.18	0.15	0.05	0.00	0.00	0.00	0.00	0.76	1%
NC	0.27	0.16	0.20	0.14	0.05	0.00	0.00	0.00	0.00	0.83	1%
TN	0.12	0.15	0.09	0.03	0.03	0.00	0.00	0.00	0.00	0.42	1%
SOUTH	0.36	0.36	0.27	0.10	0.15	0.00	0.00	0.00	0.00	1.24	2%
AR	0.14	0.06	0.07	0.03	0.03	0.00	0.00	0.00	0.00	0.33	0%
MO	0.17	0.10	0.12	0.05	0.01	0.00	0.00	0.00	0.00	0.44	1%
OK	0.15	0.06	0.13	0.05	0.07	0.00	0.00	0.00	0.00	0.46	1%
TX	0.23	0.14	0.25	0.07	0.07	0.01	0.00	0.00	0.00	0.77	1%
WEST	1.01	0.33	0.54	0.22	0.15	0.01	0.00	0.00	0.00	2.24	3%
Can/Mex/Water	0.52	0.00	0.35	0.00	0.00	2.43	0.00	0.00	0.00	3.30	4%
Grand Total	13.51	17.32	18.85	6.17	2.97	2.54	16.61	0.04	78.00	100%	

Region	EPA 2017eh CSAPR Platform May-Sept NOx (tons)				Impact Factor (ppb/ton) from IPM 5.14 Base Case			
	Motor Vehicle	Area/Nonroad/MAR	EGU Point	NonEGU Point	Motor Vehicle	Area/Nonroad/MAR	EGU Point	NonEGU Point
CT	7,404	8,635	493	1,105	2.98E-04	2.72E-04	1.66E-04	6.57E-05
DE	2,978	3,804	362	628	6.10E-05	5.25E-05	2.01E-04	1.01E-04
MD	18,204	17,239	4,348	6,213	3.84E-05	5.16E-05	6.47E-05	3.51E-05
NJ	22,647	21,484	4,001	4,544	2.15E-04	2.11E-04	1.54E-04	8.19E-05
NY	37,455	51,374	7,396	13,738	9.24E-05	7.72E-05	1.09E-04	1.59E-05
PA	41,920	58,085	50,870	23,734	4.74E-05	4.06E-05	3.96E-05	2.68E-05
VA/DC	34,992	30,088	10,438	14,251	2.18E-05	2.47E-05	2.00E-05	1.21E-05
NorthEast	26,600	33,674	2,730	10,171	1.02E-06	1.35E-06	0.00E+00	8.93E-07
IL	45,832	62,005	15,706	24,668	4.36E-06	5.42E-06	1.56E-05	5.15E-06
IN	37,038	31,009	43,842	27,222	7.85E-06	8.49E-06	7.68E-06	4.00E-06
MI	40,628	36,775	32,167	21,867	5.14E-06	5.68E-06	5.65E-06	3.32E-06
OH	64,435	44,802	29,599	21,280	1.13E-05	1.11E-05	1.10E-05	8.96E-06
WI	29,803	25,362	8,690	11,181	2.44E-06	2.51E-06	2.09E-06	1.62E-06
WV	9,327	20,288	25,582	9,678	8.76E-06	8.95E-06	5.68E-06	8.44E-06
KY	25,817	30,276	38,968	11,456	7.03E-06	6.00E-06	3.73E-06	4.76E-06
NC	35,488	24,715	21,929	15,711	4.61E-06	8.08E-06	6.21E-06	3.47E-06
TN	41,558	24,035	6,383	13,493	3.71E-06	3.78E-06	4.27E-06	2.02E-06
SOUTH	210,502	233,395	80,999	124,628	1.73E-06	1.17E-06	1.23E-06	1.17E-06
AR	22,020	19,708	11,888	13,400	2.89E-06	3.69E-06	2.29E-06	2.03E-06
MO	37,462	33,708	20,572	9,238	2.67E-06	3.50E-06	2.21E-06	9.83E-07
OK	26,238	48,653	24,329	32,203	2.42E-06	2.61E-06	2.24E-06	2.26E-06
TX	114,242	189,701	66,585	95,670	1.19E-06	1.34E-06	1.09E-06	7.59E-07
WEST	395,802	482,745	180,994	167,883	8.26E-07	1.11E-06	1.20E-06	8.65E-07



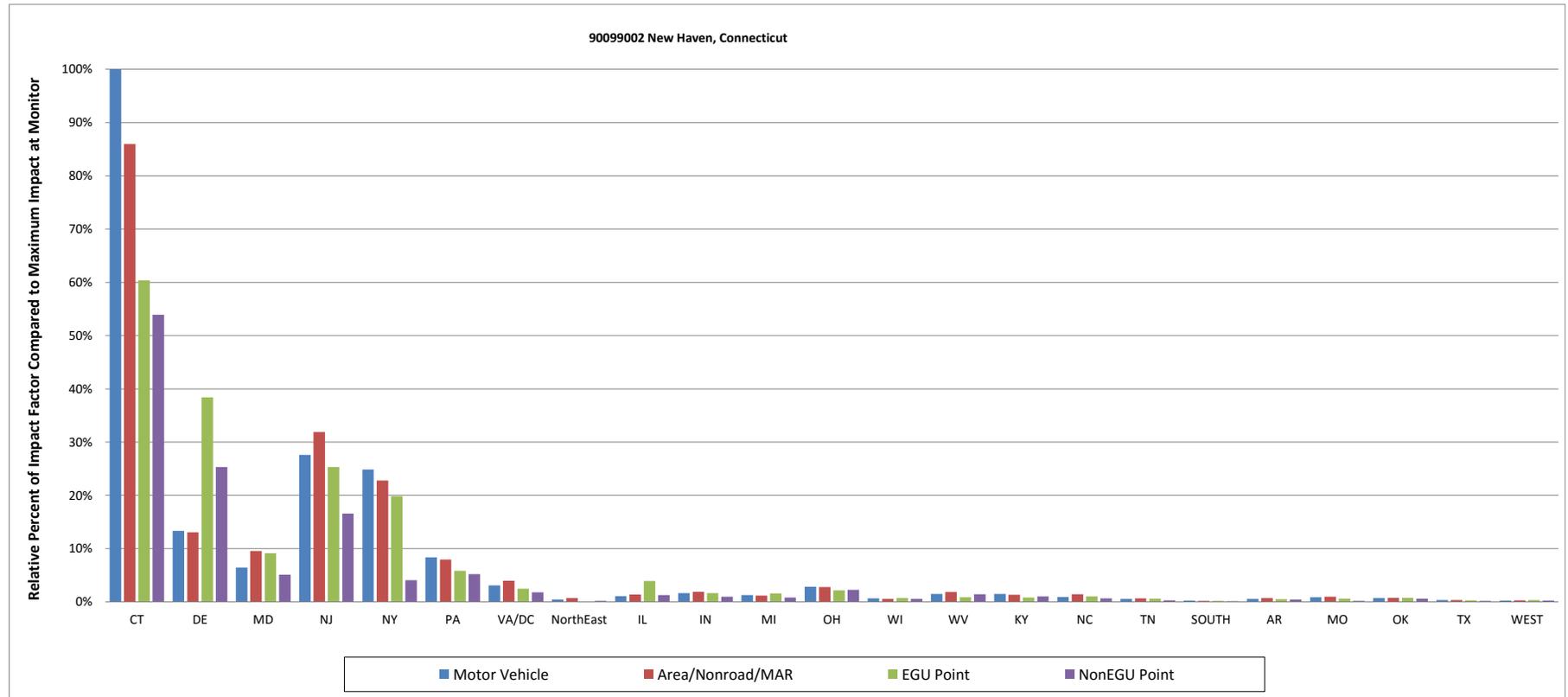
Impact Factor Comparison Relative ppb/ton Impact for Anthropogenic Source Categories

Monitor 90099002 New Haven, Connecticut

2017 OSAI Results (Modeled ppb) -- 75 ppb Threshold

Row Labels	Bio/Fire	Motor Vehicle	MAR	EGU Point	nEGU Point	Can/Mex/Water	Boundary	Initial	Total	of Total
BC	0.00	0.00	0.00	0.00	0.00	0.00	15.43	0.00	15.43	20%
CT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.03	0%
DE	0.99	3.46	3.47	0.14	0.28	0.00	0.00	0.00	8.33	11%
MD	0.16	0.19	0.23	0.06	0.07	0.01	0.00	0.00	0.72	1%
NJ	0.52	0.55	0.77	0.19	0.15	0.00	0.00	0.00	2.17	3%
NY	1.31	2.92	3.20	0.47	0.35	0.05	0.00	0.00	8.29	11%
PA	2.04	4.35	5.47	0.69	0.26	0.03	0.00	0.00	12.83	17%
VA/DC	1.99	1.64	2.15	1.38	0.57	0.00	0.00	0.00	7.74	10%
NorthEast	0.50	0.50	0.56	0.12	0.12	0.00	0.00	0.00	1.80	2%
IL	0.06	0.06	0.11	0.00	0.01	0.00	0.00	0.00	0.23	0%
IN	0.25	0.29	0.28	0.33	0.12	0.00	0.00	0.00	1.27	2%
MI	0.16	0.24	0.20	0.24	0.08	0.05	0.00	0.00	0.97	1%
OH	0.45	0.84	0.58	0.30	0.22	0.00	0.00	0.00	2.40	3%
WI	0.08	0.09	0.06	0.03	0.03	0.00	0.00	0.00	0.30	0%
WV	0.15	0.06	0.18	0.10	0.06	0.00	0.00	0.00	0.56	1%
KY	0.20	0.18	0.19	0.15	0.06	0.00	0.00	0.00	0.77	1%
NC	0.19	0.15	0.17	0.10	0.05	0.00	0.00	0.00	0.65	1%
TN	0.08	0.11	0.07	0.02	0.02	0.00	0.00	0.00	0.31	0%
SOUTH	0.22	0.23	0.19	0.07	0.09	0.00	0.00	0.00	0.82	1%
AR	0.12	0.06	0.06	0.03	0.03	0.00	0.00	0.00	0.30	0%
MO	0.20	0.15	0.15	0.06	0.01	0.00	0.00	0.00	0.57	1%
OK	0.18	0.08	0.17	0.08	0.09	0.00	0.00	0.00	0.60	1%
TX	0.26	0.18	0.30	0.09	0.09	0.01	0.00	0.00	0.93	1%
WEST	1.16	0.43	0.69	0.28	0.19	0.01	0.00	0.00	2.74	4%
Can/Mex/Water	0.45	0.00	0.96	0.00	0.00	0.00	0.00	0.00	5.07	7%
Grand Total	12.05	16.97	20.60	5.22	3.10	3.80	15.43	0.03	77.20	100%

Region	EPA 2017eh CSAPR Platform May-Sept NOx (tons)				Impact Factor (ppb/ton) from IPM 5.14 Base Case			
	Motor Vehicle	Area/Nonroad/MAR	EGU Point	NonEGU Point	Motor Vehicle	Area/Nonroad/MAR	EGU Point	NonEGU Point
CT	7,404	8,635	493	1,105	4.67E-04	4.01E-04	2.82E-04	2.52E-04
DE	2,978	3,804	362	628	6.23E-05	6.09E-05	1.79E-04	1.18E-04
MD	18,204	17,239	4,348	6,213	3.00E-05	4.46E-05	4.26E-05	2.39E-05
NJ	22,647	21,484	4,001	4,544	1.29E-04	1.49E-04	1.18E-04	7.75E-05
NY	37,455	51,374	7,396	13,738	1.16E-04	1.06E-04	9.27E-05	1.89E-05
PA	41,920	58,085	50,870	23,734	3.91E-05	3.70E-05	2.71E-05	2.42E-05
VA/DC	34,992	30,088	10,438	14,251	1.43E-05	1.85E-05	1.15E-05	8.45E-06
NorthEast	26,600	33,674	2,730	10,171	2.09E-06	3.30E-06	0.00E+00	9.11E-07
IL	45,832	62,005	15,706	24,668	5.08E-06	6.43E-06	1.83E-05	6.01E-06
IN	37,038	31,009	43,842	27,222	7.78E-06	8.97E-06	7.61E-06	4.43E-06
MI	40,628	36,775	32,167	21,867	5.93E-06	5.54E-06	7.49E-06	3.81E-06
OH	64,435	44,802	29,599	21,280	1.31E-05	1.30E-05	1.00E-05	1.05E-05
WI	29,803	25,362	8,690	11,181	3.11E-06	2.56E-06	3.20E-06	2.49E-06
WV	9,327	20,288	25,582	9,678	6.96E-06	8.68E-06	3.98E-06	6.70E-06
KY	25,817	30,276	38,968	11,456	6.82E-06	6.12E-06	3.81E-06	4.85E-06
NC	35,488	24,715	21,929	15,711	4.18E-06	6.75E-06	4.65E-06	2.95E-06
TN	41,558	24,035	6,383	13,493	2.68E-06	3.08E-06	2.90E-06	1.37E-06
SOUTH	210,502	233,395	80,999	124,628	1.10E-06	8.34E-07	9.15E-07	7.44E-07
AR	22,020	19,708	11,888	13,400	2.53E-06	3.29E-06	2.34E-06	2.07E-06
MO	37,462	33,708	20,572	9,238	3.96E-06	4.40E-06	2.70E-06	1.00E-06
OK	26,238	48,653	24,329	32,203	3.18E-06	3.43E-06	3.43E-06	2.88E-06
TX	114,242	189,701	66,585	95,670	1.54E-06	1.56E-06	1.39E-06	9.69E-07
WEST	395,802	482,745	180,994	167,883	1.08E-06	1.42E-06	1.54E-06	1.10E-06



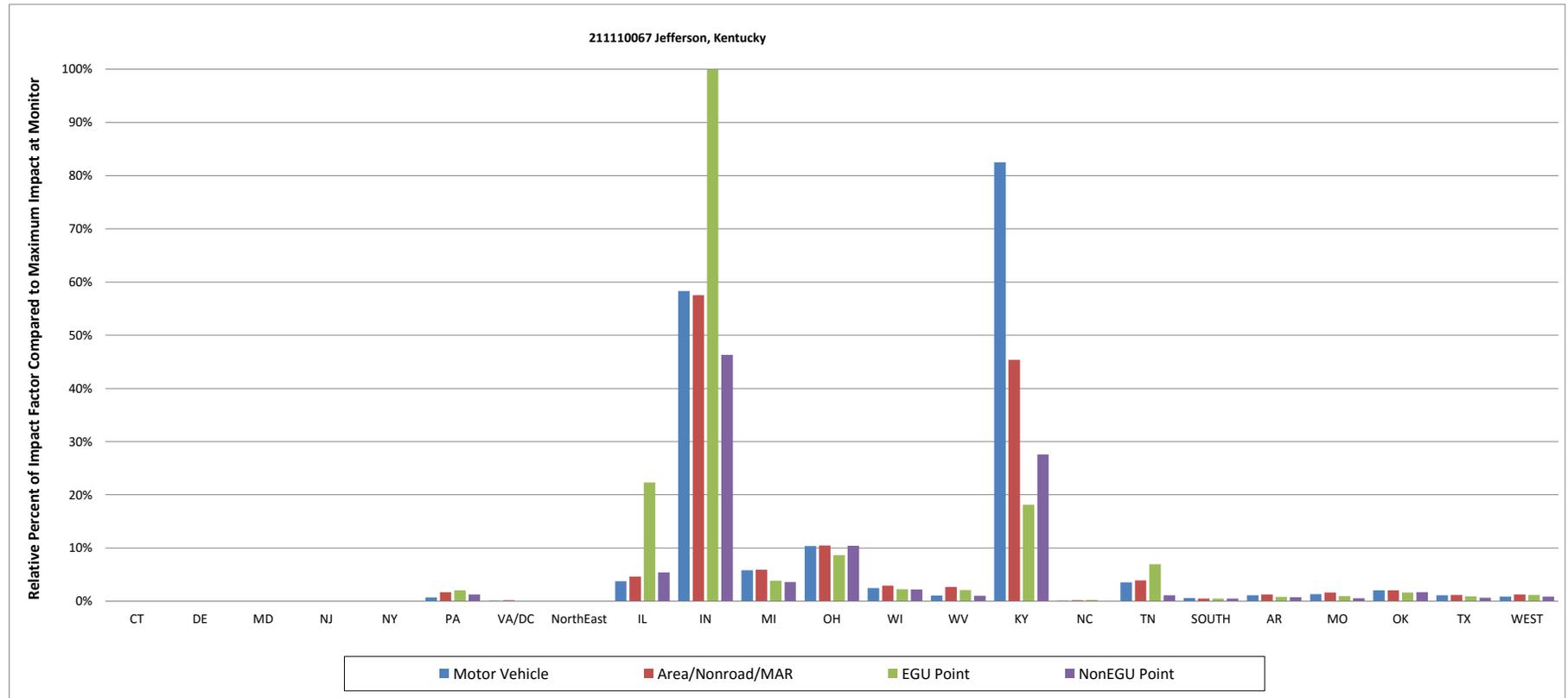
Impact Factor Comparison Relative ppb/ton Impact for Anthropogenic Source Categories

Monitor 211110067 Jefferson, Kentucky

2017 OSAI Results (Modeled ppb) -- 75 ppb Threshold

Row Labels	Bio/Fire	Motor Vehicle	Area/NR/ MAR	EGU Point	nEGU Point	Can/Mex/Water	Boundary	Initial	Total	of Total
BC	0.00	0.00	0.00	0.00	0.00	0.00	18.92	0.00	18.92	25%
CT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0%
DE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0%
MD	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0%
NJ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0%
NY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0%
PA	0.09	0.06	0.19	0.20	0.06	0.00	0.00	0.00	0.59	1%
VA/DC	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.02	0%
NorthEast	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0%
IL	0.64	0.33	0.55	0.68	0.26	0.00	0.00	0.00	2.46	3%
IN	5.72	4.16	3.44	8.44	2.43	0.00	0.00	24.19	32%	25%
MI	0.39	0.46	0.42	0.24	0.15	0.05	0.00	1.70	2%	2%
OH	1.25	1.29	0.90	0.49	0.43	0.00	0.00	4.36	6%	1%
WI	0.15	0.14	0.14	0.04	0.05	0.00	0.00	0.52	1%	1%
WV	0.07	0.02	0.10	0.10	0.02	0.00	0.00	0.31	0%	0%
KY	3.66	4.10	2.65	1.36	0.61	0.00	0.00	12.37	16%	16%
NC	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.04	0%	0%
TN	0.26	0.29	0.18	0.09	0.03	0.00	0.00	0.84	1%	1%
SOUTH	0.25	0.25	0.22	0.08	0.12	0.00	0.00	0.91	1%	1%
AR	0.09	0.05	0.05	0.02	0.02	0.00	0.00	0.22	0%	0%
MO	0.17	0.10	0.10	0.04	0.01	0.00	0.00	0.42	1%	1%
OK	0.23	0.10	0.19	0.08	0.10	0.00	0.00	0.70	1%	1%
TX	0.36	0.25	0.42	0.11	0.12	0.01	0.00	1.28	2%	2%
WEST	2.39	0.67	1.19	0.41	0.28	0.01	0.00	4.94	7%	7%
Can/Mex/Water	0.29	0.00	0.16	0.00	0.00	0.55	0.00	1.00	1%	1%
Grand Total	15.99	12.27	10.93	12.38	4.68	0.62	18.92	0.00	75.80	100%

Region	EPA 2017eh CSAPR Platform May-Sept NOx (tons)				Impact Factor (ppb/ton) from IPM 5.14 Base Case			
	Motor Vehicle	Area/Nonroad/MAR	EGU Point	NonEGU Point	Motor Vehicle	Area/Nonroad/MAR	EGU Point	NonEGU Point
CT	7,404	8,635	493	1,105	0.00E+00	0.00E+00	0.00E+00	0.00E+00
DE	2,978	3,804	362	628	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MD	18,204	17,239	4,348	6,213	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NJ	22,647	21,484	4,001	4,544	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NY	37,455	51,374	7,396	13,738	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PA	41,920	58,085	50,870	23,734	1.36E-06	3.28E-06	3.93E-06	2.41E-06
VA/DC	34,992	30,088	10,438	14,251	2.72E-07	3.16E-07	0.00E+00	0.00E+00
NorthEast	26,600	33,674	2,730	10,171	0.00E+00	0.00E+00	0.00E+00	0.00E+00
IL	45,832	62,005	15,706	24,668	7.27E-06	8.90E-06	4.30E-05	1.04E-05
IN	37,038	31,009	43,842	27,222	1.12E-04	1.11E-04	1.93E-04	8.92E-05
MI	40,628	36,775	32,167	21,867	1.12E-05	1.14E-05	7.40E-06	6.97E-06
OH	64,435	44,802	29,599	21,280	1.99E-05	2.02E-05	1.67E-05	2.01E-05
WI	29,803	25,362	8,690	11,181	4.79E-06	5.63E-06	4.38E-06	4.26E-06
WV	9,327	20,288	25,582	9,678	2.04E-06	5.16E-06	4.09E-06	1.97E-06
KY	25,817	30,276	38,968	11,456	1.59E-04	8.74E-05	3.49E-05	5.32E-05
NC	35,488	24,715	21,929	15,711	2.68E-07	3.85E-07	4.34E-07	0.00E+00
TN	41,558	24,035	6,383	13,493	6.87E-06	7.52E-06	1.34E-05	2.12E-06
SOUTH	210,502	233,395	80,999	124,628	1.18E-06	9.38E-07	9.40E-07	9.93E-07
AR	22,020	19,708	11,888	13,400	2.16E-06	2.42E-06	1.60E-06	1.42E-06
MO	37,462	33,708	20,572	9,238	2.54E-06	3.11E-06	1.85E-06	1.03E-06
OK	26,238	48,653	24,329	32,203	3.99E-06	3.91E-06	3.13E-06	3.25E-06
TX	114,242	189,701	66,585	95,670	2.17E-06	2.21E-06	1.72E-06	1.29E-06
WEST	395,802	482,745	180,994	167,883	1.68E-06	2.46E-06	2.26E-06	1.64E-06



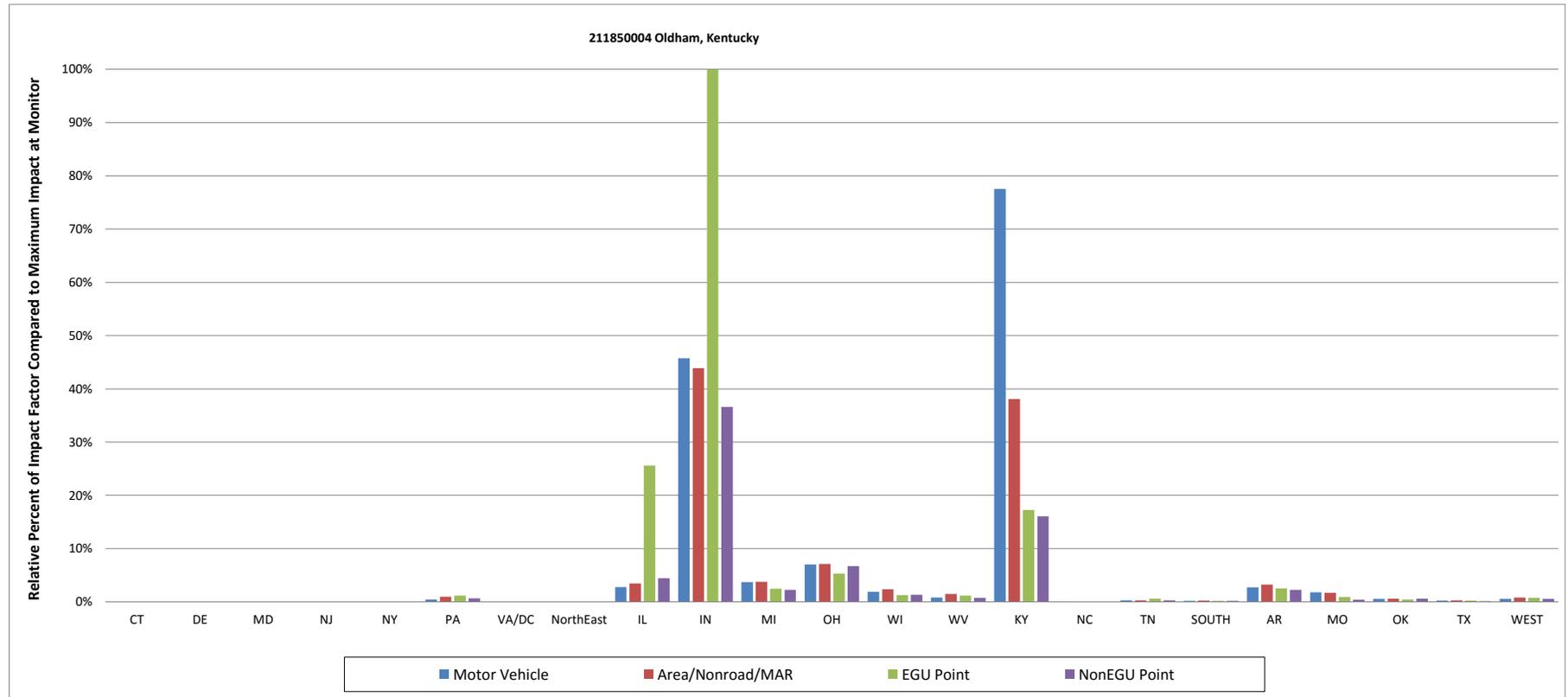
Impact Factor Comparison Relative ppb/ton Impact for Anthropogenic Source Categories

Monitor 211850004 Oldham, Kentucky

2017 OSAI Results (Modeled ppb) -- 75 ppb Threshold

Row Labels	Bio/Fire	Motor Vehicle	MAR	EGU Point	nEGU Point	Can/Mex/Water	Boundary	Initial	Total	of Total
BC	0.00	0.00	0.00	0.00	0.00	0.00	17.98	0.00	17.98	24%
CT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0%
DE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0%
MD	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0%
NJ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0%
NY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0%
PA	0.06	0.05	0.14	0.15	0.04	0.00	0.00	0.43	1%	
VA/DC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0%	
NorthEast	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0%	
IL	0.77	0.31	0.52	0.97	0.26	0.00	0.00	2.84	4%	
IN	5.95	4.10	3.29	10.61	2.41	0.00	0.00	26.36	36%	
MI	0.34	0.36	0.34	0.19	0.12	0.04	0.00	1.38	2%	
OH	1.04	1.09	0.77	0.38	0.35	0.00	0.00	3.63	5%	
WI	0.15	0.14	0.15	0.03	0.04	0.00	0.00	0.50	1%	
WV	0.05	0.02	0.07	0.07	0.02	0.00	0.00	0.23	0%	
KY	3.10	4.84	2.79	1.63	0.45	0.00	0.00	12.81	17%	
NC	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0%	
TN	0.03	0.03	0.02	0.01	0.01	0.00	0.00	0.09	0%	
SOUTH	0.12	0.09	0.14	0.04	0.06	0.00	0.00	0.45	1%	
AR	0.35	0.15	0.15	0.07	0.07	0.00	0.00	0.79	1%	
MO	0.35	0.16	0.14	0.05	0.01	0.00	0.00	0.70	1%	
OK	0.08	0.04	0.07	0.03	0.05	0.00	0.00	0.26	0%	
TX	0.12	0.06	0.15	0.04	0.04	0.00	0.00	0.40	1%	
WEST	2.00	0.52	0.96	0.34	0.23	0.01	0.00	4.05	6%	
Can/Mex/Water	0.26	0.00	0.10	0.00	0.00	0.42	0.00	0.78	1%	
Grand Total	14.76	11.96	9.79	14.59	4.14	0.46	17.98	0.02	73.70	100%

Region	EPA 2017eh CSAPR Platform May-Sept NOx (tons)				Impact Factor (ppb/ton) from IPM 5.14 Base Case			
	Motor Vehicle	Area/Nonroad/MAR	EGU Point	NonEGU Point	Motor Vehicle	Area/Nonroad/MAR	EGU Point	NonEGU Point
CT	7,404	8,635	493	1,105	0.00E+00	0.00E+00	0.00E+00	0.00E+00
DE	2,978	3,804	362	628	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MD	18,204	17,239	4,348	6,213	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NJ	22,647	21,484	4,001	4,544	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NY	37,455	51,374	7,396	13,738	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PA	41,920	58,085	50,870	23,734	1.08E-06	2.35E-06	2.86E-06	1.53E-06
VA/DC	34,992	30,088	10,438	14,251	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NorthEast	26,600	33,674	2,730	10,171	0.00E+00	0.00E+00	0.00E+00	0.00E+00
IL	45,832	62,005	15,706	24,668	6.74E-06	8.36E-06	6.19E-05	1.07E-05
IN	37,038	31,009	43,842	27,222	1.11E-04	1.06E-04	2.42E-04	8.85E-05
MI	40,628	36,775	32,167	21,867	8.95E-06	9.15E-06	5.93E-06	5.40E-06
OH	64,435	44,802	29,599	21,280	1.69E-05	1.72E-05	1.29E-05	1.62E-05
WI	29,803	25,362	8,690	11,181	4.57E-06	5.73E-06	3.14E-06	3.25E-06
WV	9,327	20,288	25,582	9,678	1.95E-06	3.58E-06	2.84E-06	1.88E-06
KY	25,817	30,276	38,968	11,456	1.88E-04	9.22E-05	4.18E-05	3.89E-05
NC	35,488	24,715	21,929	15,711	2.56E-07	0.00E+00	0.00E+00	0.00E+00
TN	41,558	24,035	6,383	13,493	6.56E-07	7.56E-07	1.42E-06	6.74E-07
SOUTH	210,502	233,395	80,999	124,628	4.32E-07	5.84E-07	4.49E-07	5.11E-07
AR	22,020	19,708	11,888	13,400	6.60E-06	7.84E-06	6.12E-06	5.43E-06
MO	37,462	33,708	20,572	9,238	4.37E-06	4.04E-06	2.21E-06	9.84E-07
OK	26,238	48,653	24,329	32,203	1.39E-06	1.49E-06	1.12E-06	1.41E-06
TX	114,242	189,701	66,585	95,670	5.57E-07	7.67E-07	5.46E-07	3.80E-07
WEST	395,802	482,745	180,994	167,883	1.31E-06	2.00E-06	1.86E-06	1.35E-06



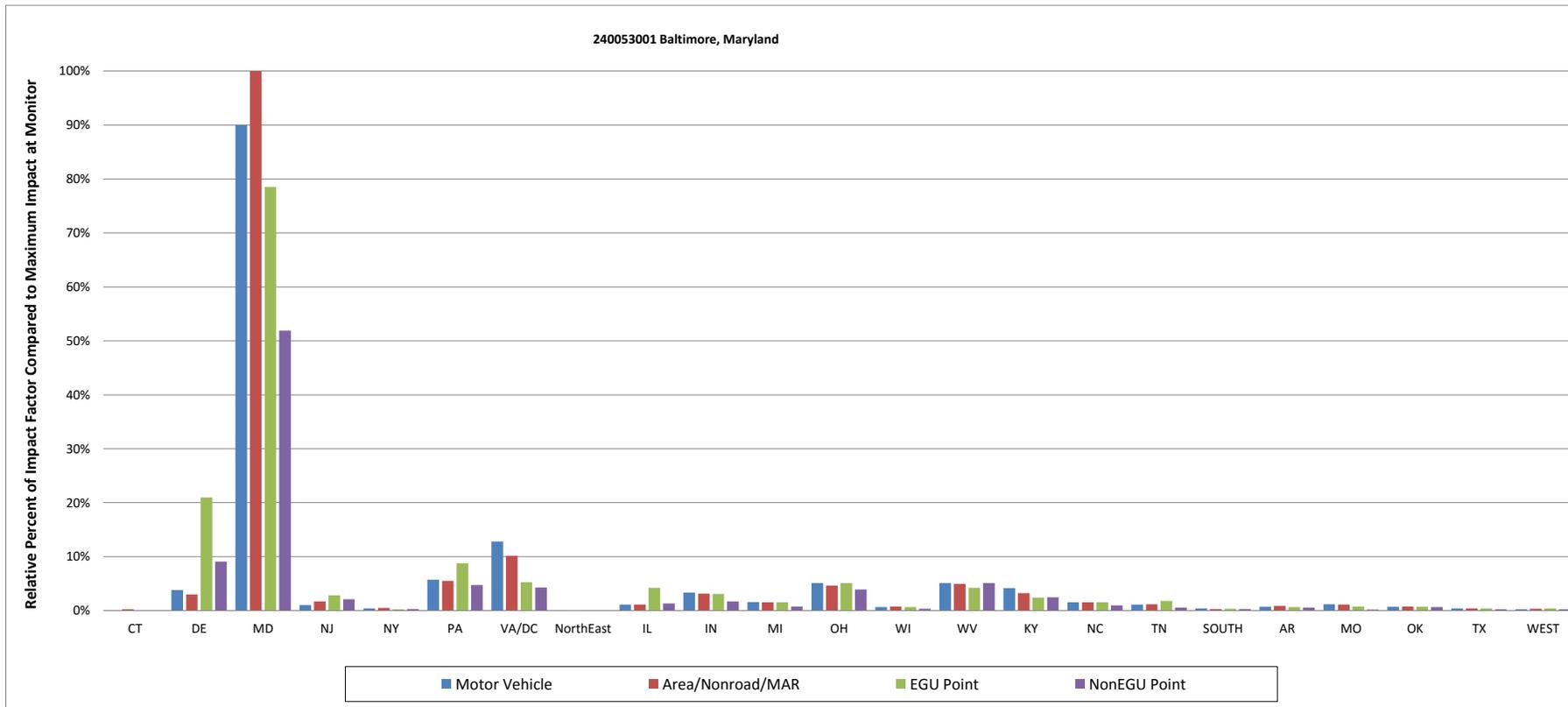
Impact Factor Comparison Relative ppb/ton Impact for Anthropogenic Source Categories

Monitor 240053001 Baltimore, Maryland

2017 OSAI Results (Modeled ppb) -- 75 ppb Threshold

Row Labels	Bio/Fire	Motor Vehicle	Area/NR/ MAR	EGU Point	nEGU Point	Can/Mex/Water	Boundary	Initial	Total of Total	
BC	0.00	0.00	0.00	0.00	0.00	0.00	14.44	0.00	14.44	20%
IC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.03	0%
CT	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0%
DE	0.04	0.05	0.05	0.04	0.03	0.00	0.00	0.00	0.21	0%
MD	3.15	7.70	8.10	1.60	1.52	0.00	0.00	0.00	22.08	30%
NJ	0.06	0.11	0.17	0.05	0.04	0.00	0.00	0.00	0.44	1%
NY	0.12	0.07	0.12	0.01	0.02	0.00	0.00	0.00	0.34	0%
PA	1.49	1.13	1.51	2.10	0.53	0.00	0.00	0.00	6.76	9%
VA/DC	1.25	2.10	1.44	0.26	0.29	0.00	0.00	0.00	5.33	7%
NorthEast	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.01	0%
IL	0.29	0.24	0.33	0.31	0.15	0.00	0.00	0.00	1.32	2%
IN	0.41	0.58	0.45	0.63	0.21	0.00	0.00	0.00	2.29	3%
MI	0.21	0.30	0.27	0.23	0.08	0.04	0.00	0.00	1.12	2%
OH	0.87	1.55	0.98	0.71	0.39	0.00	0.00	0.00	4.51	6%
WI	0.08	0.09	0.09	0.03	0.02	0.00	0.00	0.00	0.30	0%
WV	0.42	0.22	0.47	0.51	0.23	0.00	0.00	0.00	1.85	3%
KY	0.48	0.51	0.46	0.45	0.13	0.00	0.00	0.00	2.03	3%
NC	0.30	0.26	0.18	0.16	0.07	0.00	0.00	0.00	0.97	1%
TN	0.14	0.22	0.13	0.05	0.04	0.00	0.00	0.00	0.59	1%
SOUTH	0.33	0.37	0.33	0.12	0.18	0.00	0.00	0.00	1.34	2%
AR	0.14	0.07	0.08	0.04	0.04	0.00	0.00	0.00	0.37	0%
MO	0.28	0.21	0.18	0.07	0.01	0.00	0.00	0.00	0.74	1%
OK	0.20	0.09	0.18	0.08	0.10	0.00	0.00	0.00	0.64	1%
TX	0.31	0.21	0.37	0.12	0.12	0.01	0.00	0.00	1.13	2%
WEST	1.33	0.49	0.78	0.32	0.19	0.01	0.00	0.00	3.11	4%
Can/Mex/Water	0.27	0.00	0.20	0.00	0.00	0.78	0.00	0.00	1.24	2%
Grand Total	12.15	16.59	16.89	7.90	4.37	0.83	14.44	0.03	73.20	100%

Region	EPA 2017eh CSAPR Platform May-Sept NOx (tons)				Impact Factor (ppb/ton) from IPM 5.14 Base Case			
	Motor Vehicle	Area/Nonroad/MAR	EGU Point	NonEGU Point	Motor Vehicle	Area/Nonroad/MAR	EGU Point	NonEGU Point
CT	7,404	8,635	493	1,105	0.00E+00	1.03E-06	0.00E+00	0.00E+00
DE	2,978	3,804	362	628	1.80E-05	1.41E-05	9.85E-05	4.26E-05
MD	18,204	17,239	4,348	6,213	4.23E-04	4.70E-04	3.69E-04	2.44E-04
NJ	22,647	21,484	4,001	4,544	4.72E-06	7.88E-06	1.34E-05	9.81E-06
NY	37,455	51,374	7,396	13,738	1.90E-06	2.43E-06	1.21E-06	1.30E-06
PA	41,920	58,085	50,870	23,734	2.70E-05	2.59E-05	4.14E-05	2.22E-05
VA/DC	34,992	30,088	10,438	14,251	6.01E-05	4.77E-05	2.48E-05	2.00E-05
NorthEast	26,600	33,674	2,730	10,171	0.00E+00	2.65E-07	0.00E+00	0.00E+00
IL	45,832	62,005	15,706	24,668	5.25E-06	5.32E-06	1.99E-05	6.14E-06
IN	37,038	31,009	43,842	27,222	1.56E-05	1.47E-05	1.44E-05	7.86E-06
MI	40,628	36,775	32,167	21,867	7.48E-06	7.27E-06	7.21E-06	3.67E-06
OH	64,435	44,802	29,599	21,280	2.41E-05	2.19E-05	2.41E-05	1.84E-05
WI	29,803	25,362	8,690	11,181	2.99E-06	3.52E-06	3.08E-06	1.59E-06
WV	9,327	20,288	25,582	9,678	2.39E-05	2.33E-05	1.99E-05	2.40E-05
KY	25,817	30,276	38,968	11,456	1.97E-05	1.53E-05	1.14E-05	1.17E-05
NC	35,488	24,715	21,929	15,711	7.29E-06	7.22E-06	7.32E-06	4.54E-06
TN	41,558	24,035	6,383	13,493	5.36E-06	5.56E-06	8.38E-06	2.64E-06
SOUTH	210,502	233,395	80,999	124,628	1.78E-06	1.41E-06	1.54E-06	1.43E-06
AR	22,020	19,708	11,888	13,400	3.24E-06	4.07E-06	3.00E-06	2.66E-06
MO	37,462	33,708	20,572	9,238	5.47E-06	5.29E-06	3.47E-06	9.65E-07
OK	26,238	48,653	24,329	32,203	3.40E-06	3.67E-06	3.30E-06	3.05E-06
TX	114,242	189,701	66,585	95,670	1.87E-06	1.93E-06	1.74E-06	1.21E-06
WEST	395,802	482,745	180,994	167,883	1.24E-06	1.61E-06	1.77E-06	1.12E-06



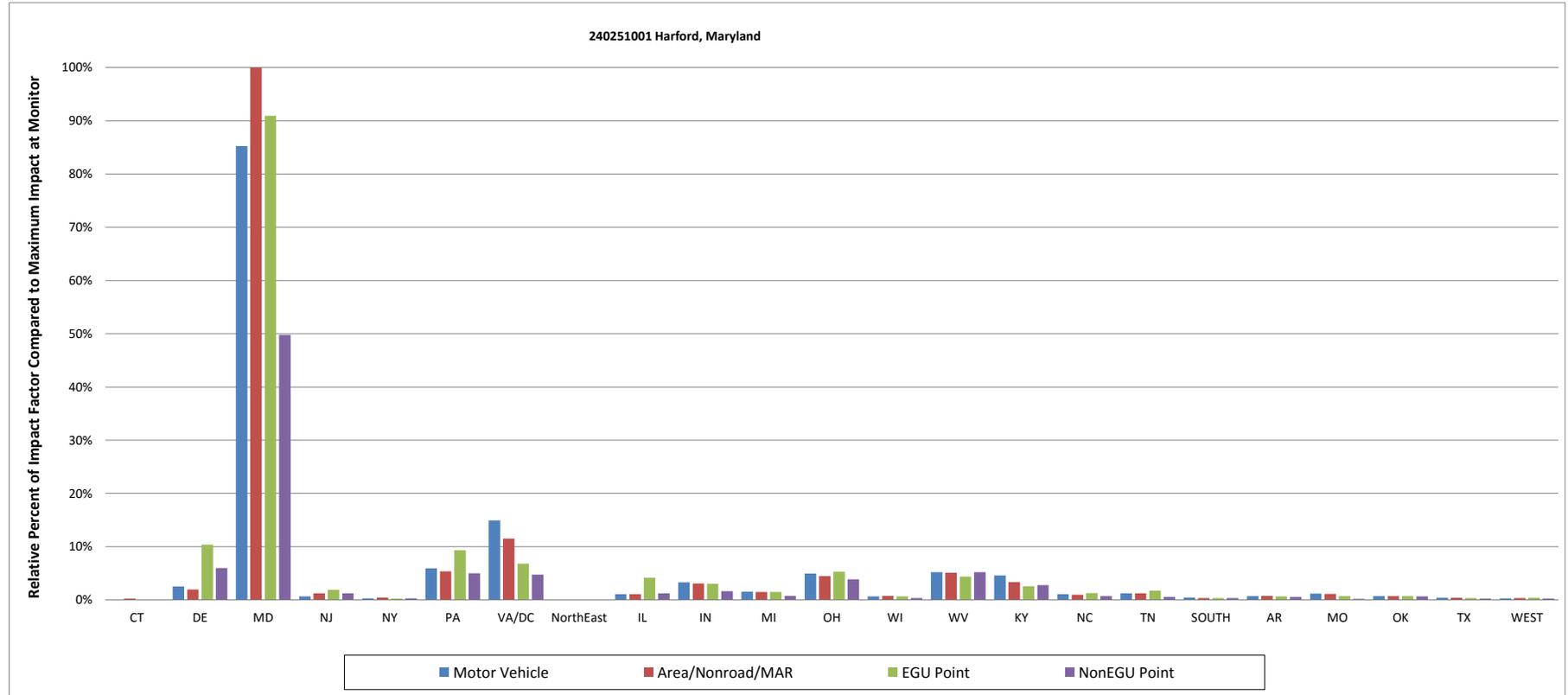
Impact Factor Comparison Relative ppb/ton Impact for Anthropogenic Source Categories

Monitor 240251001 Harford, Maryland

2017 OSAI Results (Modeled ppb) -- 75 ppb Threshold

Row Labels	Area/NR/							Boundary	Initial	Total	of Total
	Bio/Fire	Motor Vehicle	MAR	EGU Point	nEGU Point	Can/Mex/Water					
BC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16.16	0.00	16.16	20%
IC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.03	0%
CT	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0%
DE	0.03	0.04	0.04	0.02	0.02	0.00	0.00	0.00	0.00	0.15	0%
MD	2.66	8.25	9.16	2.10	1.64	0.00	0.00	0.00	0.00	23.82	29%
NJ	0.05	0.08	0.14	0.04	0.03	0.00	0.00	0.00	0.00	0.34	0%
NY	0.10	0.06	0.12	0.01	0.02	0.00	0.00	0.00	0.00	0.31	0%
PA	1.46	1.32	1.65	2.53	0.63	0.00	0.00	0.00	0.00	7.60	9%
VA/DC	1.30	2.78	1.84	0.38	0.36	0.00	0.00	0.00	0.00	6.66	8%
NorthEast	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0%
IL	0.30	0.26	0.35	0.35	0.16	0.00	0.00	0.00	1.41	2%	
IN	0.45	0.65	0.51	0.71	0.24	0.00	0.00	0.00	2.55	3%	
MI	0.22	0.33	0.29	0.25	0.09	0.04	0.00	0.00	1.22	1%	
OH	0.94	1.69	1.07	0.84	0.44	0.00	0.00	0.00	4.97	6%	
WI	0.09	0.10	0.10	0.03	0.02	0.00	0.00	0.00	0.34	0%	
WV	0.45	0.26	0.55	0.60	0.27	0.00	0.00	0.00	2.12	3%	
KY	0.52	0.63	0.54	0.53	0.17	0.00	0.00	0.00	2.38	3%	
NC	0.20	0.20	0.13	0.15	0.06	0.00	0.00	0.00	0.74	1%	
TN	0.16	0.27	0.16	0.06	0.04	0.00	0.00	0.00	0.69	1%	
SOUTH	0.41	0.51	0.41	0.16	0.22	0.00	0.00	0.00	1.70	2%	
AR	0.14	0.08	0.08	0.04	0.04	0.00	0.00	0.00	0.38	0%	
MO	0.29	0.23	0.20	0.08	0.01	0.00	0.00	0.00	0.81	1%	
OK	0.21	0.10	0.19	0.09	0.11	0.00	0.00	0.00	0.70	1%	
TX	0.36	0.24	0.42	0.13	0.13	0.01	0.00	0.00	1.28	2%	
WEST	1.51	0.57	0.91	0.38	0.22	0.01	0.00	0.00	3.60	4%	
Can/Mex/Water	0.29	0.00	0.23	0.00	0.00	0.00	0.00	0.00	1.34	2%	
Grand Total	12.13	18.64	19.08	9.46	4.91	0.89	16.16	0.03	81.30	100%	

Region	EPA 2017eh CSAPR Platform May-Sept NOx (tons)				Impact Factor (ppb/ton) from IPM 5.14 Base Case			
	Motor Vehicle	Area/Nonroad/MAR	EGU Point	NonEGU Point	Motor Vehicle	Area/Nonroad/MAR	EGU Point	NonEGU Point
CT	7,404	8,635	493	1,105	0.00E+00	1.15E-06	0.00E+00	0.00E+00
DE	2,978	3,804	362	628	1.34E-05	1.05E-05	5.50E-05	3.17E-05
MD	18,204	17,239	4,348	6,213	4.53E-04	5.32E-04	4.83E-04	2.65E-04
NJ	22,647	21,484	4,001	4,544	3.52E-06	6.49E-06	9.96E-06	6.58E-06
NY	37,455	51,374	7,396	13,738	1.60E-06	2.33E-06	1.35E-06	1.45E-06
PA	41,920	58,085	50,870	23,734	3.16E-05	2.85E-05	4.97E-05	2.64E-05
VA/DC	34,992	30,088	10,438	14,251	7.94E-05	6.12E-05	3.63E-05	2.52E-05
NorthEast	26,600	33,674	2,730	10,171	0.00E+00	0.00E+00	0.00E+00	0.00E+00
IL	45,832	62,005	15,706	24,668	5.65E-06	5.62E-06	2.22E-05	6.46E-06
IN	37,038	31,009	43,842	27,222	1.75E-05	1.64E-05	1.61E-05	8.79E-06
MI	40,628	36,775	32,167	21,867	8.09E-06	7.85E-06	7.74E-06	4.10E-06
OH	64,435	44,802	29,599	21,280	2.63E-05	2.38E-05	2.83E-05	2.06E-05
WI	29,803	25,362	8,690	11,181	3.34E-06	3.93E-06	3.44E-06	1.78E-06
WV	9,327	20,288	25,582	9,678	2.78E-05	2.70E-05	2.34E-05	2.78E-05
KY	25,817	30,276	38,968	11,456	2.43E-05	1.78E-05	1.35E-05	1.48E-05
NC	35,488	24,715	21,929	15,711	5.61E-06	5.24E-06	6.81E-06	3.80E-06
TN	41,558	24,035	6,383	13,493	6.47E-06	6.63E-06	9.36E-06	2.95E-06
SOUTH	210,502	233,395	80,999	124,628	2.41E-06	1.75E-06	1.97E-06	1.76E-06
AR	22,020	19,708	11,888	13,400	3.62E-06	4.04E-06	3.35E-06	2.97E-06
MO	37,462	33,708	20,572	9,238	6.12E-06	5.91E-06	3.87E-06	1.08E-06
OK	26,238	48,653	24,329	32,203	3.80E-06	3.89E-06	3.68E-06	3.40E-06
TX	114,242	189,701	66,585	95,670	2.09E-06	2.21E-06	1.94E-06	1.35E-06
WEST	395,802	482,745	180,994	167,883	1.43E-06	1.88E-06	2.09E-06	1.31E-06



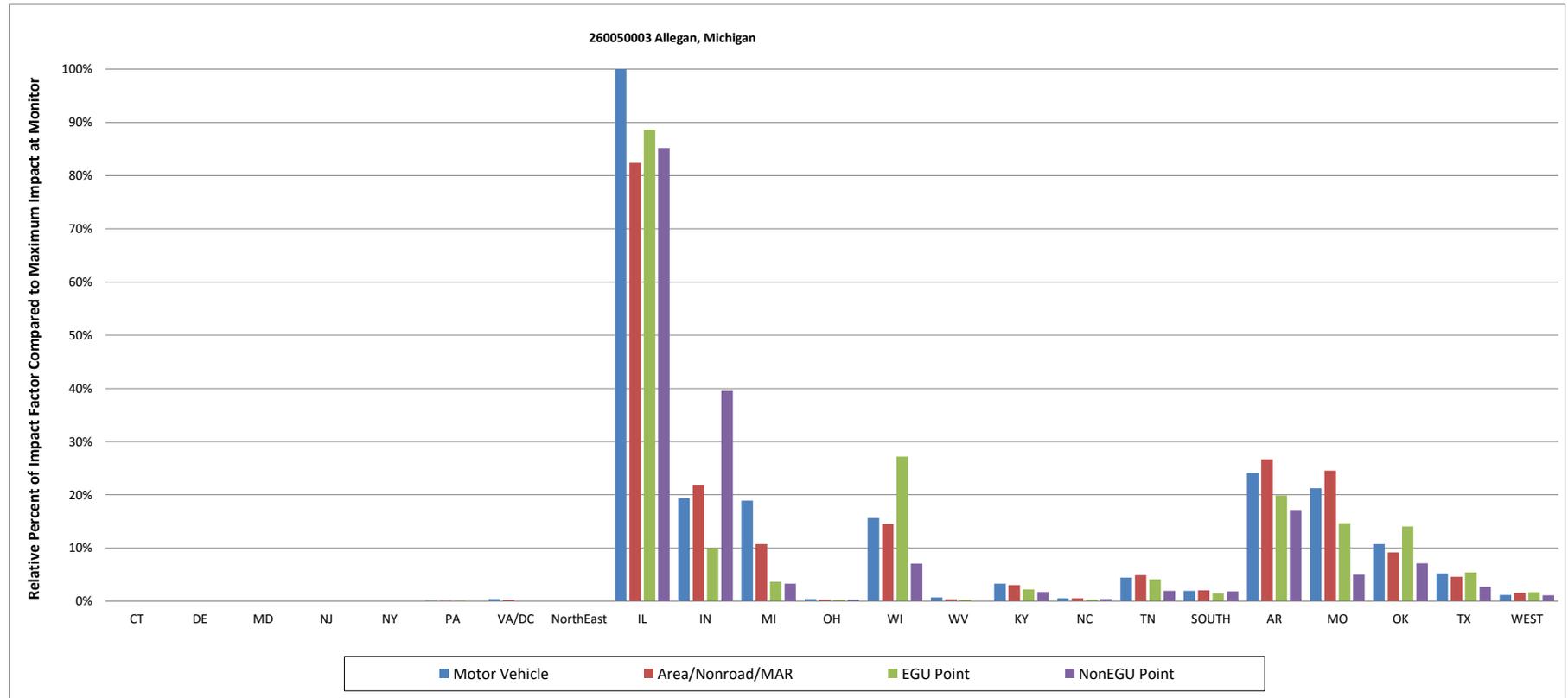
Impact Factor Comparison Relative ppb/ton Impact for Anthropogenic Source Categories

Monitor 260050003 Allegan, Michigan

2017 OSAI Results (Modeled ppb) -- 75 ppb Threshold

Row Labels	Area/NR/						Boundary	Initial	Total of Total	
	Bio/Fire	Motor Vehicle	MAR	EGU Point	nEGU Point	Can/Mex/Water				
BC	0.00	0.00	0.00	0.00	0.00	0.00	12.05	0.00	12.05	16%
IC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06	0%
CT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0%
DE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0%
MD	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0%
NJ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0%
NY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0%
PA	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.03	0.03	0%
VA/DC	0.01	0.02	0.01	0.00	0.00	0.00	0.00	0.04	0.04	0%
NorthEast	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0%
IL	5.40	6.44	7.17	1.96	2.95	0.00	0.00	23.92	32%	
IN	0.79	1.01	0.95	0.62	1.51	0.00	0.00	4.88	6%	
MI	0.43	1.08	0.55	0.17	0.10	0.00	0.00	2.33	3%	
OH	0.02	0.04	0.02	0.01	0.01	0.00	0.00	0.09	0%	
WI	0.46	0.65	0.52	0.33	0.11	0.00	0.00	2.07	3%	
WV	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.04	0%	
KY	0.21	0.12	0.13	0.12	0.03	0.00	0.00	0.61	1%	
NC	0.02	0.03	0.02	0.01	0.01	0.00	0.00	0.08	0%	
TN	0.24	0.26	0.17	0.04	0.04	0.00	0.00	0.74	1%	
SOUTH	0.81	0.57	0.67	0.17	0.32	0.00	0.00	2.55	3%	
AR	1.73	0.75	0.74	0.33	0.32	0.00	0.00	3.87	5%	
MO	3.50	1.12	1.16	0.42	0.06	0.00	0.00	6.27	8%	
OK	0.88	0.40	0.63	0.48	0.32	0.00	0.00	2.70	4%	
TX	1.24	0.84	1.22	0.51	0.37	0.02	0.00	4.20	6%	
WEST	1.85	0.65	1.09	0.42	0.26	0.01	0.00	4.28	6%	
Can/Mex/Water	0.09	0.00	4.14	0.00	0.00	0.46	0.00	4.69	6%	
Grand Total	17.72	13.97	19.20	5.60	6.42	0.49	12.05	0.06	75.50	100%

Region	EPA 2017eh CSAPR Platform May-Sept NOx (tons)				Impact Factor (ppb/ton) from IPM 5.14 Base Case			
	Motor Vehicle	Area/Nonroad/MAR	EGU Point	NonEGU Point	Motor Vehicle	Area/Nonroad/MAR	EGU Point	NonEGU Point
CT	7,404	8,635	493	1,105	0.00E+00	0.00E+00	0.00E+00	0.00E+00
DE	2,978	3,804	362	628	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MD	18,204	17,239	4,348	6,213	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NJ	22,647	21,484	4,001	4,544	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NY	37,455	51,374	7,396	13,738	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PA	41,920	58,085	50,870	23,734	2.20E-07	1.59E-07	1.81E-07	0.00E+00
VA/DC	34,992	30,088	10,438	14,251	5.27E-07	3.07E-07	0.00E+00	0.00E+00
NorthEast	26,600	33,674	2,730	10,171	0.00E+00	0.00E+00	0.00E+00	0.00E+00
IL	45,832	62,005	15,706	24,668	1.40E-04	1.16E-04	1.24E-04	1.20E-04
IN	37,038	31,009	43,842	27,222	2.71E-05	3.06E-05	1.41E-05	5.56E-05
MI	40,628	36,775	32,167	21,867	2.68E-05	1.50E-05	5.16E-06	4.64E-06
OH	64,435	44,802	29,599	21,280	5.72E-07	4.12E-07	3.12E-07	4.33E-07
WI	29,803	25,362	8,690	11,181	2.20E-05	2.04E-05	3.82E-05	9.90E-06
WV	9,327	20,288	25,582	9,678	9.89E-07	4.55E-07	3.60E-07	0.00E+00
KY	25,817	30,276	38,968	11,456	4.64E-06	4.26E-06	3.08E-06	2.41E-06
NC	35,488	24,715	21,929	15,711	7.80E-07	7.46E-07	4.21E-07	5.87E-07
TN	41,558	24,035	6,383	13,493	6.21E-06	6.91E-06	5.78E-06	2.73E-06
SOUTH	210,502	233,395	80,999	124,628	2.72E-06	2.88E-06	2.05E-06	2.59E-06
AR	22,020	19,708	11,888	13,400	3.39E-05	3.74E-05	2.79E-05	2.41E-05
MO	37,462	33,708	20,572	9,238	2.98E-05	3.45E-05	2.06E-05	6.99E-06
OK	26,238	48,653	24,329	32,203	1.51E-05	1.29E-05	1.97E-05	1.00E-05
TX	114,242	189,701	66,585	95,670	7.35E-06	6.42E-06	7.62E-06	3.86E-06
WEST	395,802	482,745	180,994	167,883	1.63E-06	2.25E-06	2.34E-06	1.54E-06



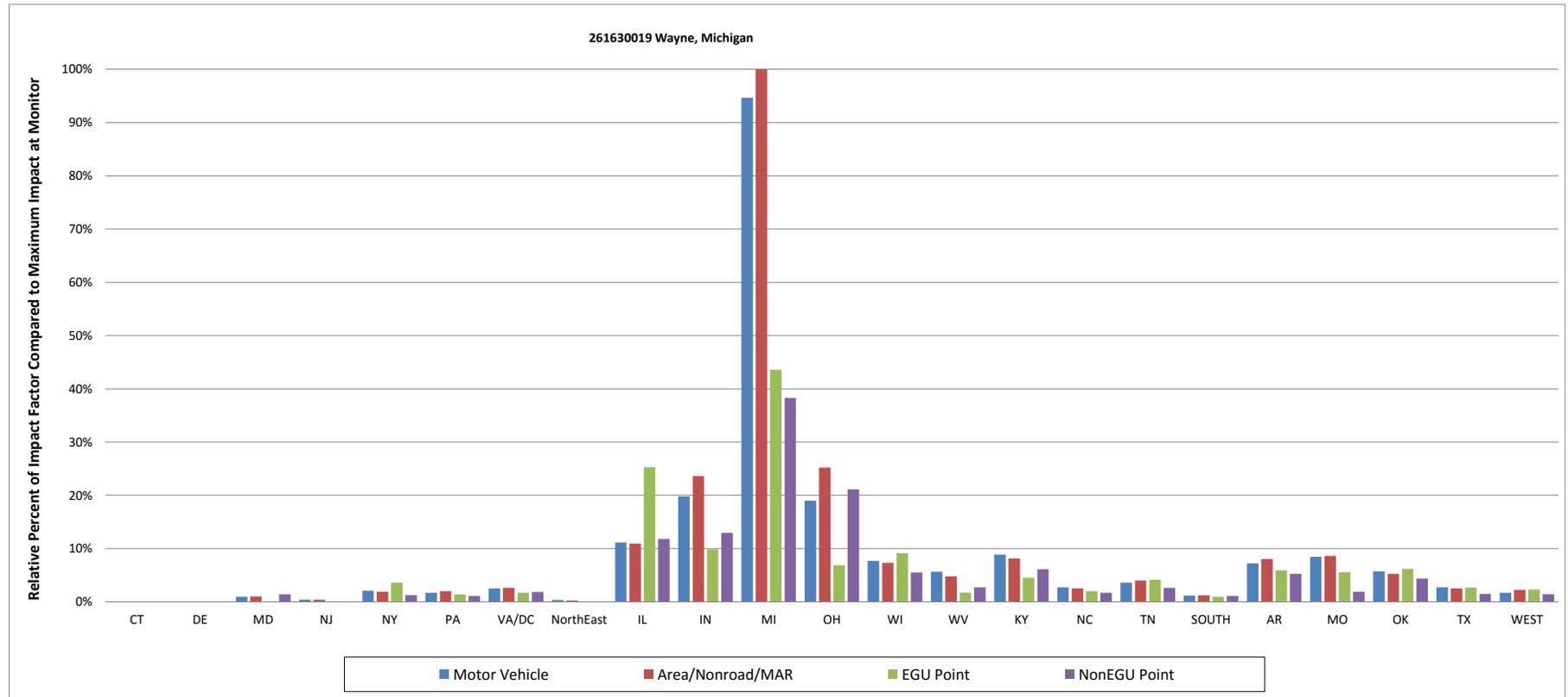
Impact Factor Comparison Relative ppb/ton Impact for Anthropogenic Source Categories

Monitor 261630019 Wayne, Michigan

2017 OSAAT Results (Modeled ppb) -- 75 ppb Threshold

Row Labels	Bio/Fire	Motor Vehicle	Area/NR/ MAR	EGU Point	nEGU Point	Can/Mex/Water	Boundary	Initial	Total	of Total
BC	0.00	0.00	0.00	0.00	0.00	0.00	21.70	0.00	21.70	29%
CT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.07	0%
DE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0%
MD	0.01	0.02	0.02	0.00	0.01	0.00	0.00	0.00	0.07	0%
NJ	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.02	0%
NY	0.10	0.10	0.13	0.03	0.02	0.02	0.00	0.00	0.41	1%
PA	0.08	0.09	0.15	0.09	0.03	0.00	0.00	0.00	0.45	1%
VA/DC	0.09	0.11	0.10	0.02	0.03	0.00	0.00	0.00	0.37	0%
NorthEast	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.03	0%
IL	0.89	0.66	0.88	0.51	0.38	0.00	0.00	0.00	3.33	4%
IN	1.10	0.95	0.95	0.56	0.46	0.00	0.00	0.00	4.02	5%
MI	3.76	4.99	4.77	1.82	1.09	0.85	0.00	0.00	17.28	23%
OH	1.29	1.59	1.46	0.26	0.58	0.00	0.00	0.00	5.19	7%
WI	0.38	0.30	0.24	0.10	0.08	0.00	0.00	0.00	1.10	1%
WV	0.10	0.07	0.13	0.06	0.03	0.00	0.00	0.00	0.39	1%
KY	0.43	0.30	0.32	0.23	0.09	0.00	0.00	0.00	1.37	2%
NC	0.10	0.13	0.08	0.06	0.03	0.00	0.00	0.00	0.40	1%
TN	0.18	0.19	0.13	0.03	0.05	0.00	0.00	0.00	0.58	1%
SOUTH	0.45	0.32	0.37	0.10	0.18	0.00	0.00	0.00	1.42	2%
AR	0.45	0.21	0.21	0.09	0.09	0.00	0.00	0.00	1.04	1%
MO	0.68	0.41	0.38	0.15	0.02	0.00	0.00	0.00	1.64	2%
OK	0.40	0.19	0.33	0.19	0.18	0.00	0.00	0.00	1.30	2%
TX	0.56	0.40	0.62	0.23	0.18	0.01	0.00	0.00	2.00	3%
WEST	2.45	0.87	1.42	0.54	0.31	0.01	0.00	0.00	5.60	8%
Can/Mex/Water	1.12	0.00	0.56	0.00	0.00	2.54	0.00	0.00	4.22	6%
Grand Total	14.65	11.93	13.26	5.09	3.87	3.43	21.70	0.07	74.00	100%

Region	EPA 2017eh CSAPR Platform May-Sept NOx (tons)				Impact Factor (ppb/ton) from IPM 5.14 Base Case			
	Motor Vehicle	Area/Nonroad/MAR	EGU Point	NonEGU Point	Motor Vehicle	Area/Nonroad/MAR	EGU Point	NonEGU Point
CT	7,404	8,635	493	1,105	0.00E+00	0.00E+00	0.00E+00	0.00E+00
DE	2,978	3,804	362	628	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MD	18,204	17,239	4,348	6,213	1.26E-06	1.33E-06	0.00E+00	1.84E-06
NJ	22,647	21,484	4,001	4,544	5.05E-07	5.33E-07	0.00E+00	0.00E+00
NY	37,455	51,374	7,396	13,738	2.75E-06	2.45E-06	4.64E-06	1.67E-06
PA	41,920	58,085	50,870	23,734	2.19E-06	2.56E-06	1.80E-06	1.45E-06
VA/DC	34,992	30,088	10,438	14,251	3.27E-06	3.42E-06	2.19E-06	2.41E-06
NorthEast	26,600	33,674	2,730	10,171	4.30E-07	3.40E-07	0.00E+00	0.00E+00
IL	45,832	62,005	15,706	24,668	1.45E-05	1.42E-05	3.28E-05	1.53E-05
IN	37,038	31,009	43,842	27,222	2.56E-05	3.06E-05	1.28E-05	1.68E-05
MI	40,628	36,775	32,167	21,867	1.23E-04	1.30E-04	5.66E-05	4.97E-05
OH	64,435	44,802	29,599	21,280	2.47E-05	3.27E-05	8.89E-06	2.74E-05
WI	29,803	25,362	8,690	11,181	9.98E-06	9.47E-06	1.19E-05	7.16E-06
WV	9,327	20,288	25,582	9,678	7.36E-06	6.20E-06	2.24E-06	3.55E-06
KY	25,817	30,276	38,968	11,456	1.15E-05	1.06E-05	5.87E-06	7.99E-06
NC	35,488	24,715	21,929	15,711	3.55E-06	3.24E-06	2.61E-06	2.18E-06
TN	41,558	24,035	6,383	13,493	4.68E-06	5.24E-06	5.38E-06	3.39E-06
SOUTH	210,502	233,395	80,999	124,628	1.52E-06	1.57E-06	1.27E-06	1.47E-06
AR	22,020	19,708	11,888	13,400	9.35E-06	1.05E-05	7.70E-06	6.83E-06
MO	37,462	33,708	20,572	9,238	1.10E-05	1.12E-05	7.23E-06	2.48E-06
OK	26,238	48,653	24,329	32,203	7.41E-06	6.82E-06	8.00E-06	5.69E-06
TX	114,242	189,701	66,585	95,670	3.51E-06	3.26E-06	3.44E-06	1.91E-06
WEST	395,802	482,745	180,994	167,883	2.20E-06	2.94E-06	2.97E-06	1.84E-06

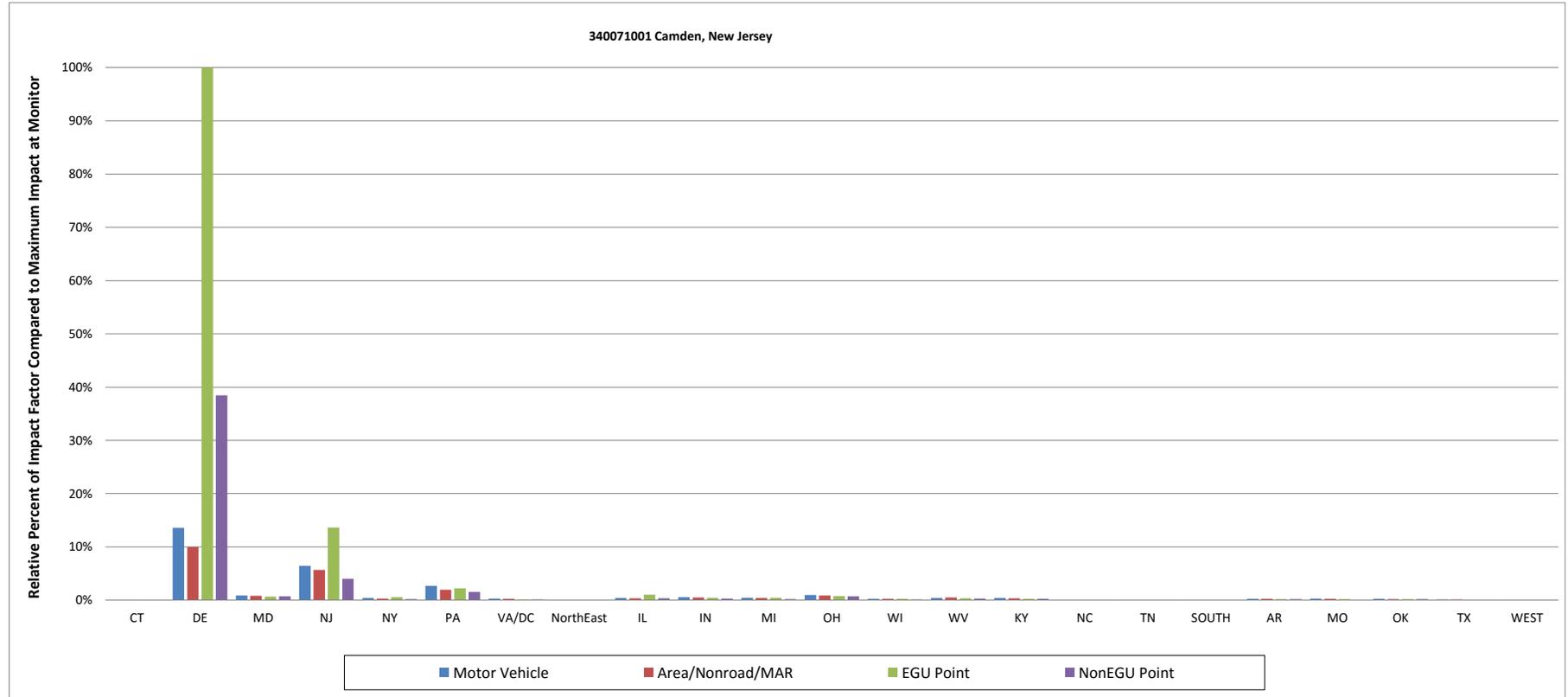


Impact Factor Comparison Relative ppb/ton Impact for Anthropogenic Source Categories

Monitor 340071001 Camden, New Jersey 2017 OSAT Results (Modeled ppb) -- 75 ppb Threshold

Row Labels	Bio/Fire	Motor Vehicle	Area/NR/ MAR	EGU Point	nEGU Point	Can/Mex/Water	Boundary	Initial	Total	of Total
BC	0.00	0.00	0.00	0.00	0.00	0.00	13.51	0.00	13.51	18%
IC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.04	0%
CT	0.01	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.05	0%
DE	0.27	1.13	1.06	1.01	0.67	0.00	0.00	0.00	4.15	6%
MD	0.36	0.44	0.40	0.08	0.12	0.00	0.00	0.00	1.40	2%
NJ	1.70	4.09	3.39	1.52	0.51	0.01	0.00	0.00	11.22	15%
NY	0.35	0.39	0.46	0.12	0.06	0.02	0.00	0.00	1.40	2%
PA	2.80	3.15	3.15	3.12	1.03	0.00	0.00	0.00	13.24	18%
VA/DC	0.00	0.00	0.19	0.05	0.05	0.00	0.00	0.00	0.94	1%
NorthEast	0.51	0.50	0.62	0.44	0.25	0.00	0.00	0.00	2.32	3%
IL	0.47	0.56	0.45	0.52	0.23	0.00	0.00	0.00	2.22	3%
IN	0.41	0.54	0.41	0.39	0.13	0.06	0.00	0.00	1.94	3%
MI	1.15	1.74	1.09	0.65	0.43	0.00	0.00	0.00	5.05	7%
OH	0.19	0.22	0.18	0.05	0.05	0.00	0.00	0.00	0.69	1%
WI	0.26	0.10	0.27	0.23	0.08	0.00	0.00	0.00	0.95	1%
WV	0.35	0.27	0.28	0.27	0.08	0.00	0.00	0.00	1.26	2%
KY	0.05	0.05	0.04	0.04	0.02	0.00	0.00	0.00	0.18	0%
NC	0.06	0.07	0.05	0.02	0.01	0.00	0.00	0.00	0.22	0%
TN	0.46	0.36	0.43	0.13	0.22	0.00	0.00	0.00	1.60	2%
SOUTH	0.30	0.14	0.13	0.05	0.06	0.00	0.00	0.00	0.68	1%
AR	0.44	0.28	0.24	0.10	0.01	0.00	0.00	0.00	1.07	1%
MO	0.36	0.16	0.28	0.14	0.16	0.00	0.00	0.00	1.09	1%
OK	0.57	0.37	0.61	0.20	0.17	0.02	0.00	0.00	1.95	3%
TX	1.96	0.72	1.18	0.47	0.27	0.01	0.00	0.00	4.61	6%
WEST	0.42	0.00	0.23	0.00	0.00	1.79	0.00	0.00	2.43	3%
Can/Mex/Water										
Grand Total	13.82	15.57	15.15	9.59	4.61	1.91	13.51	0.04	74.20	100%

Region	EPA 2017eh CSAPR Platform May-Sept NOx (tons)				Impact Factor (ppb/ton) from IPM 5.14 Base Case			
	Motor Vehicle	Area/Nonroad/MAR	EGU Point	NonEGU Point	Motor Vehicle	Area/Nonroad/MAR	EGU Point	NonEGU Point
CT	7,404	8,635	493	1,105	2.46E-06	2.11E-06	0.00E+00	0.00E+00
DE	2,978	3,804	362	628	3.80E-04	2.78E-04	2.80E-03	1.08E-03
MD	18,204	17,239	4,348	6,213	2.40E-05	2.33E-05	1.89E-05	1.91E-05
NJ	22,647	21,484	4,001	4,544	1.80E-04	1.58E-04	3.81E-04	1.12E-04
NY	37,455	51,374	7,396	13,738	1.05E-05	8.87E-06	1.60E-05	4.65E-06
PA	41,920	58,085	50,870	23,734	7.50E-05	5.42E-05	6.13E-05	4.34E-05
VA/DC	34,992	30,088	10,438	14,251	7.56E-06	6.36E-06	4.37E-06	3.84E-06
NorthEast	26,600	33,674	2,730	10,171	0.00E+00	0.00E+00	0.00E+00	0.00E+00
IL	45,832	62,005	15,706	24,668	1.09E-05	1.00E-05	2.79E-05	9.98E-06
IN	37,038	31,009	43,842	27,222	1.50E-05	1.44E-05	1.19E-05	8.37E-06
MI	40,628	36,775	32,167	21,867	1.32E-05	1.12E-05	1.22E-05	5.84E-06
OH	64,435	44,802	29,599	21,280	2.70E-05	2.42E-05	2.19E-05	2.01E-05
WI	29,803	25,362	8,690	11,181	7.34E-06	7.19E-06	6.30E-06	4.08E-06
WV	9,327	20,288	25,582	9,678	1.08E-05	1.35E-05	8.91E-06	8.48E-06
KY	25,817	30,276	38,968	11,456	1.06E-05	9.34E-06	7.02E-06	7.16E-06
NC	35,488	24,715	21,929	15,711	1.28E-06	1.48E-06	1.66E-06	1.16E-06
TN	41,558	24,035	6,383	13,493	1.76E-06	2.28E-06	2.86E-06	6.76E-07
SOUTH	210,502	233,395	80,999	124,628	1.73E-06	1.84E-06	1.58E-06	1.76E-06
AR	22,020	19,708	11,888	13,400	6.21E-06	6.48E-06	4.60E-06	4.76E-06
MO	37,462	33,708	20,572	9,238	7.55E-06	7.03E-06	4.88E-06	9.87E-07
OK	26,238	48,653	24,329	32,203	6.26E-06	5.81E-06	5.62E-06	4.81E-06
TX	114,242	189,701	66,585	95,670	3.27E-06	3.22E-06	3.01E-06	1.81E-06
WEST	395,802	482,745	180,994	167,883	1.82E-06	2.44E-06	2.57E-06	1.63E-06



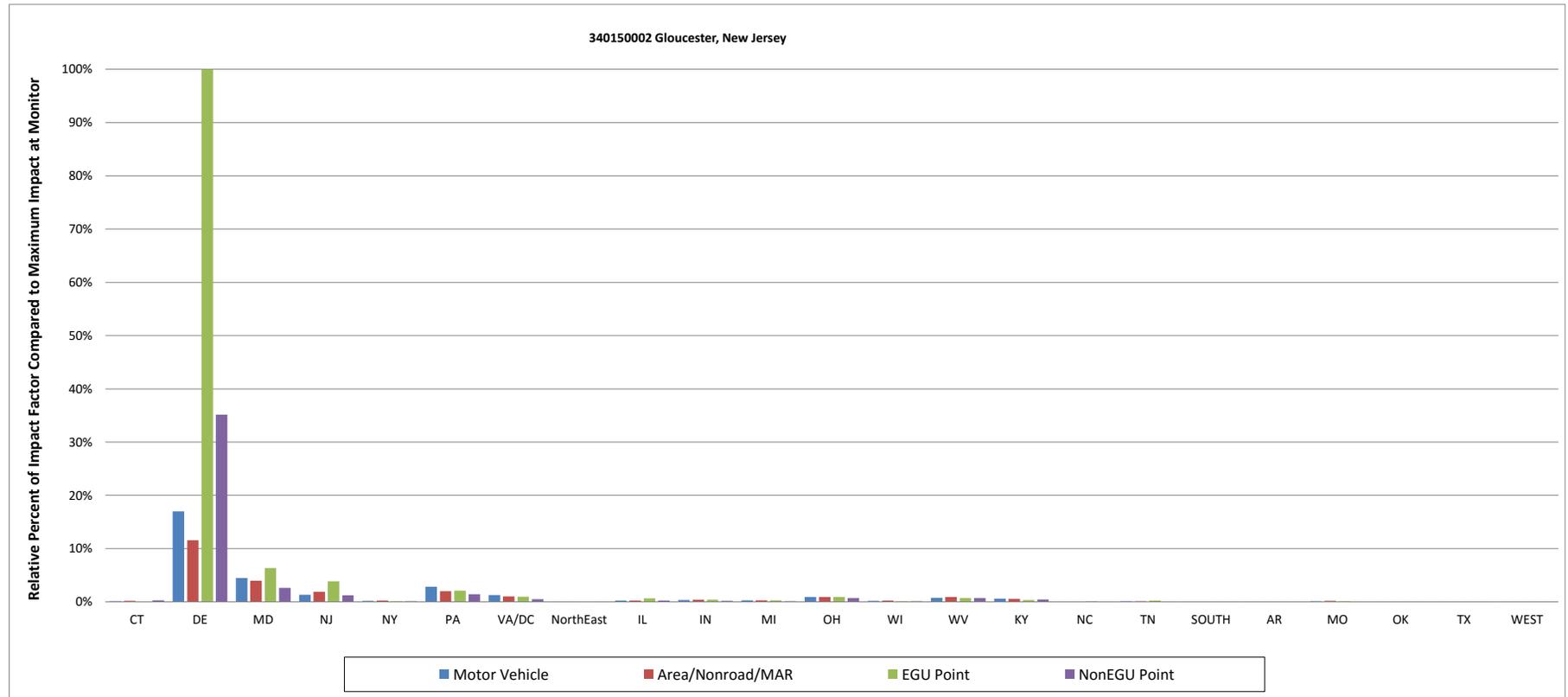
Impact Factor Comparison Relative ppb/ton Impact for Anthropogenic Source Categories

Monitor 340150002 Gloucester, New Jersey

2017 OSAI Results (Modeled ppb) -- 75 ppb Threshold

Row Labels	Bio/Fire	Motor Vehicle	Area/NR/ MAR	EGU Point	nEGU Point	Can/Mex/Water	Boundary	Initial	Total	of Total
BC	0.00	0.00	0.00	0.00	0.00	0.00	15.99	0.00	15.99	21%
IC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0%
CT	0.03	0.03	0.05	0.00	0.01	0.00	0.00	0.00	0.11	0%
DE	0.63	1.47	1.28	1.05	0.64	0.00	0.00	0.00	5.09	7%
MD	0.88	2.38	2.00	0.80	0.47	0.00	0.00	0.00	6.54	9%
NJ	0.91	0.89	1.20	0.45	0.16	0.00	0.00	0.00	3.61	5%
NY	0.37	0.18	0.34	0.03	0.05	0.01	0.00	0.00	0.98	1%
PA	3.27	3.46	3.34	3.13	1.01	0.00	0.00	0.00	14.20	19%
VA/DC	0.64	1.30	0.88	0.29	0.21	0.00	0.00	0.00	3.52	5%
NorthEast	0.06	0.03	0.05	0.00	0.01	0.00	0.00	0.00	0.14	0%
IL	0.35	0.31	0.44	0.30	0.16	0.00	0.00	0.00	1.56	2%
IN	0.33	0.34	0.34	0.49	0.15	0.00	0.00	0.00	1.66	2%
MI	0.23	0.34	0.31	0.29	0.09	0.05	0.00	0.00	1.29	2%
OH	1.25	1.70	1.17	0.79	0.43	0.00	0.00	0.00	5.33	7%
WI	0.16	0.17	0.18	0.04	0.04	0.00	0.00	0.00	0.59	1%
WV	0.43	0.20	0.53	0.53	0.20	0.00	0.00	0.00	1.89	3%
KY	0.55	0.44	0.49	0.37	0.14	0.00	0.00	0.00	1.99	3%
NC	0.10	0.09	0.07	0.08	0.04	0.00	0.00	0.00	0.36	0%
TN	0.11	0.14	0.11	0.05	0.03	0.00	0.00	0.00	0.44	1%
SOUTH	0.45	0.46	0.43	0.16	0.22	0.00	0.00	0.00	1.72	2%
AR	0.10	0.05	0.06	0.03	0.02	0.00	0.00	0.00	0.25	0%
MO	0.34	0.17	0.16	0.07	0.01	0.00	0.00	0.00	0.76	1%
OK	0.16	0.07	0.14	0.07	0.08	0.00	0.00	0.00	0.52	1%
TX	0.41	0.26	0.48	0.12	0.14	0.02	0.00	0.00	1.44	2%
WEST	1.38	0.54	0.82	0.31	0.22	0.01	0.00	0.00	3.28	4%
Can/Mex/Water	0.35	0.00	0.31	0.00	0.00	1.16	0.00	0.00	1.82	2%
Grand Total	13.71	15.02	15.17	9.43	4.53	1.25	15.99	0.01	75.10	100%

Region	EPA 2017eh CSAPR Platform May-Sept NOx (tons)				Impact Factor (ppb/ton) from IPM 5.14 Base Case			
	Motor Vehicle	Area/Nonroad/MAR	EGU Point	NonEGU Point	Motor Vehicle	Area/Nonroad/MAR	EGU Point	NonEGU Point
CT	7,404	8,635	493	1,105	3.88E-06	5.55E-06	0.00E+00	8.67E-06
DE	2,978	3,804	362	628	4.95E-04	3.37E-04	2.91E-03	1.02E-03
MD	18,204	17,239	4,348	6,213	1.31E-04	1.16E-04	1.85E-04	7.55E-05
NJ	22,647	21,484	4,001	4,544	3.93E-05	5.57E-05	1.13E-04	3.58E-05
NY	37,455	51,374	7,396	13,738	4.86E-06	6.53E-06	3.89E-06	3.49E-06
PA	41,920	58,085	50,870	23,734	8.25E-05	5.75E-05	6.16E-05	4.24E-05
VA/DC	34,992	30,088	10,438	14,251	3.72E-05	2.93E-05	2.75E-05	1.48E-05
NorthEast	26,600	33,674	2,730	10,171	1.08E-06	1.42E-06	0.00E+00	9.42E-07
IL	45,832	62,005	15,706	24,668	6.69E-06	7.11E-06	1.89E-05	6.60E-06
IN	37,038	31,009	43,842	27,222	9.31E-06	1.11E-05	1.11E-05	5.63E-06
MI	40,628	36,775	32,167	21,867	8.25E-06	8.33E-06	8.93E-06	3.94E-06
OH	64,435	44,802	29,599	21,280	2.63E-05	2.61E-05	2.65E-05	2.03E-05
WI	29,803	25,362	8,690	11,181	5.78E-06	7.18E-06	4.41E-06	3.43E-06
WV	9,327	20,288	25,582	9,678	2.16E-05	2.60E-05	2.06E-05	2.08E-05
KY	25,817	30,276	38,968	11,456	1.71E-05	1.61E-05	9.59E-06	1.25E-05
NC	35,488	24,715	21,929	15,711	2.43E-06	2.71E-06	3.49E-06	2.44E-06
TN	41,558	24,035	6,383	13,493	3.46E-06	4.38E-06	7.50E-06	2.13E-06
SOUTH	210,502	233,395	80,999	124,628	2.18E-06	1.85E-06	2.01E-06	1.77E-06
AR	22,020	19,708	11,888	13,400	2.17E-06	2.92E-06	2.42E-06	1.43E-06
MO	37,462	33,708	20,572	9,238	4.60E-06	4.83E-06	3.26E-06	1.04E-06
OK	26,238	48,653	24,329	32,203	2.56E-06	2.95E-06	2.76E-06	2.38E-06
TX	114,242	189,701	66,585	95,670	2.26E-06	2.52E-06	1.87E-06	1.50E-06
WEST	395,802	482,745	180,994	167,883	1.36E-06	1.71E-06	1.69E-06	1.31E-06

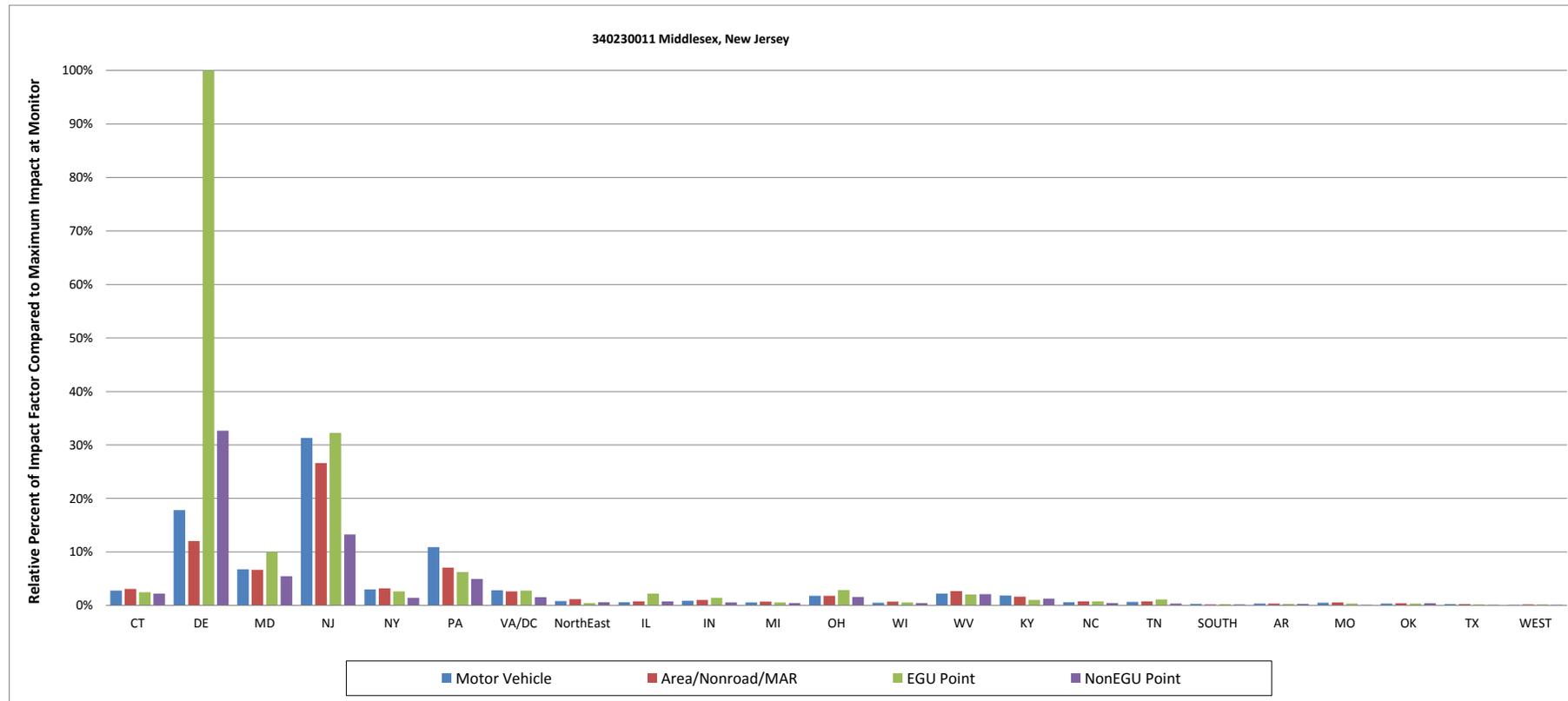


Impact Factor Comparison Relative ppb/ton Impact for Anthropogenic Source Categories

Monitor 340230011 Middlesex, New Jersey 2017 OSAI Results (Modeled ppb) -- 75 ppb Threshold

Row Labels	Area/NR/						Boundary	Initial	Total of Total	
	Bio/Fire	Motor Vehicle	MAR	EGU Point	nEGU Point	Can/Mex/Water				
BC	0.00	0.00	0.00	0.00	0.00	0.00	15.67	0.00	15.67	21%
IC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05	0%
CT	0.16	0.16	0.20	0.01	0.02	0.00	0.00	0.00	0.54	1%
DE	0.18	0.40	0.35	0.27	0.16	0.00	0.00	0.00	1.36	2%
MD	0.61	0.93	0.67	0.33	0.26	0.00	0.00	0.00	2.99	4%
NJ	1.96	5.36	4.32	0.98	0.46	0.02	0.00	0.00	13.10	18%
NY	0.74	0.84	1.24	0.15	0.15	0.05	0.00	0.00	3.16	4%
PA	1.67	3.46	3.10	2.41	0.88	0.00	0.00	0.00	11.52	16%
VA/DC	0.74	0.75	0.59	0.22	0.16	0.00	0.00	0.00	2.46	3%
NorthEast	0.34	0.16	0.29	0.01	0.05	0.01	0.00	0.00	0.86	1%
IL	0.28	0.20	0.35	0.26	0.14	0.00	0.00	0.00	1.23	2%
IN	0.22	0.25	0.24	0.47	0.12	0.00	0.00	0.00	1.29	2%
MI	0.24	0.17	0.20	0.14	0.07	0.03	0.00	0.00	0.85	1%
OH	0.56	0.88	0.61	0.64	0.26	0.00	0.00	0.00	2.95	4%
WI	0.14	0.11	0.14	0.04	0.04	0.00	0.00	0.00	0.46	1%
WV	0.36	0.16	0.41	0.39	0.16	0.00	0.00	0.00	1.47	2%
KY	0.36	0.36	0.37	0.29	0.11	0.00	0.00	0.00	1.50	2%
NC	0.22	0.16	0.15	0.13	0.05	0.00	0.00	0.00	0.71	1%
TN	0.14	0.21	0.14	0.05	0.04	0.00	0.00	0.00	0.57	1%
SOUTH	0.40	0.45	0.36	0.14	0.18	0.00	0.00	0.00	1.52	2%
AR	0.10	0.05	0.05	0.03	0.03	0.00	0.00	0.00	0.26	0%
MO	0.22	0.14	0.15	0.05	0.01	0.00	0.00	0.00	0.57	1%
OK	0.17	0.07	0.16	0.06	0.09	0.00	0.00	0.00	0.56	1%
TX	0.32	0.19	0.37	0.10	0.11	0.02	0.00	0.00	1.11	2%
WEST	1.33	0.47	0.73	0.29	0.19	0.01	0.00	0.00	3.03	4%
Can/Mex/Water	0.69	0.00	0.27	0.00	0.00	2.26	0.00	0.00	3.23	4%
Grand Total	12.13	15.94	15.65	7.46	3.71	2.39	15.67	0.05	73.00	100%

Region	EPA 2017eh CSAPR Platform May-Sept NOx (tons)				Impact Factor (ppb/ton) from IPM 5.14 Base Case			
	Motor Vehicle	Area/Nonroad/MAR	EGU Point	NonEGU Point	Motor Vehicle	Area/Nonroad/MAR	EGU Point	NonEGU Point
CT	7,404	8,635	493	1,105	2.09E-05	2.32E-05	1.85E-05	1.65E-05
DE	2,978	3,804	362	628	1.35E-04	9.11E-05	7.56E-04	2.47E-04
MD	18,204	17,239	4,348	6,213	5.11E-05	5.03E-05	7.55E-05	4.11E-05
NJ	22,647	21,484	4,001	4,544	2.37E-04	2.01E-04	2.44E-04	1.00E-04
NY	37,455	51,374	7,396	13,738	2.24E-05	2.41E-05	1.97E-05	1.06E-05
PA	41,920	58,085	50,870	23,734	8.24E-05	5.34E-05	4.73E-05	3.73E-05
VA/DC	34,992	30,088	10,438	14,251	2.14E-05	1.97E-05	2.10E-05	1.15E-05
NorthEast	26,600	33,674	2,730	10,171	6.17E-06	8.67E-06	3.34E-06	4.48E-06
IL	45,832	62,005	15,706	24,668	4.39E-06	5.59E-06	1.68E-05	5.55E-06
IN	37,038	31,009	43,842	27,222	6.65E-06	7.65E-06	1.08E-05	4.36E-06
MI	40,628	36,775	32,167	21,867	4.26E-06	5.46E-06	4.25E-06	3.34E-06
OH	64,435	44,802	29,599	21,280	1.37E-05	1.36E-05	2.16E-05	1.20E-05
WI	29,803	25,362	8,690	11,181	3.67E-06	5.39E-06	4.20E-06	3.26E-06
WV	9,327	20,288	25,582	9,678	1.66E-05	2.02E-05	1.53E-05	1.60E-05
KY	25,817	30,276	38,968	11,456	1.41E-05	1.23E-05	7.49E-06	9.55E-06
NC	35,488	24,715	21,929	15,711	4.63E-06	5.90E-06	5.82E-06	3.48E-06
TN	41,558	24,035	6,383	13,493	5.05E-06	5.69E-06	8.57E-06	2.70E-06
SOUTH	210,502	233,395	80,999	124,628	2.12E-06	1.52E-06	1.69E-06	1.46E-06
AR	22,020	19,708	11,888	13,400	2.48E-06	2.78E-06	2.30E-06	2.04E-06
MO	37,462	33,708	20,572	9,238	3.65E-06	4.33E-06	2.66E-06	9.87E-07
OK	26,238	48,653	24,329	32,203	2.78E-06	3.19E-06	2.62E-06	2.83E-06
TX	114,242	189,701	66,585	95,670	1.68E-06	1.97E-06	1.51E-06	1.14E-06
WEST	395,802	482,745	180,994	167,883	1.20E-06	1.51E-06	1.61E-06	1.14E-06



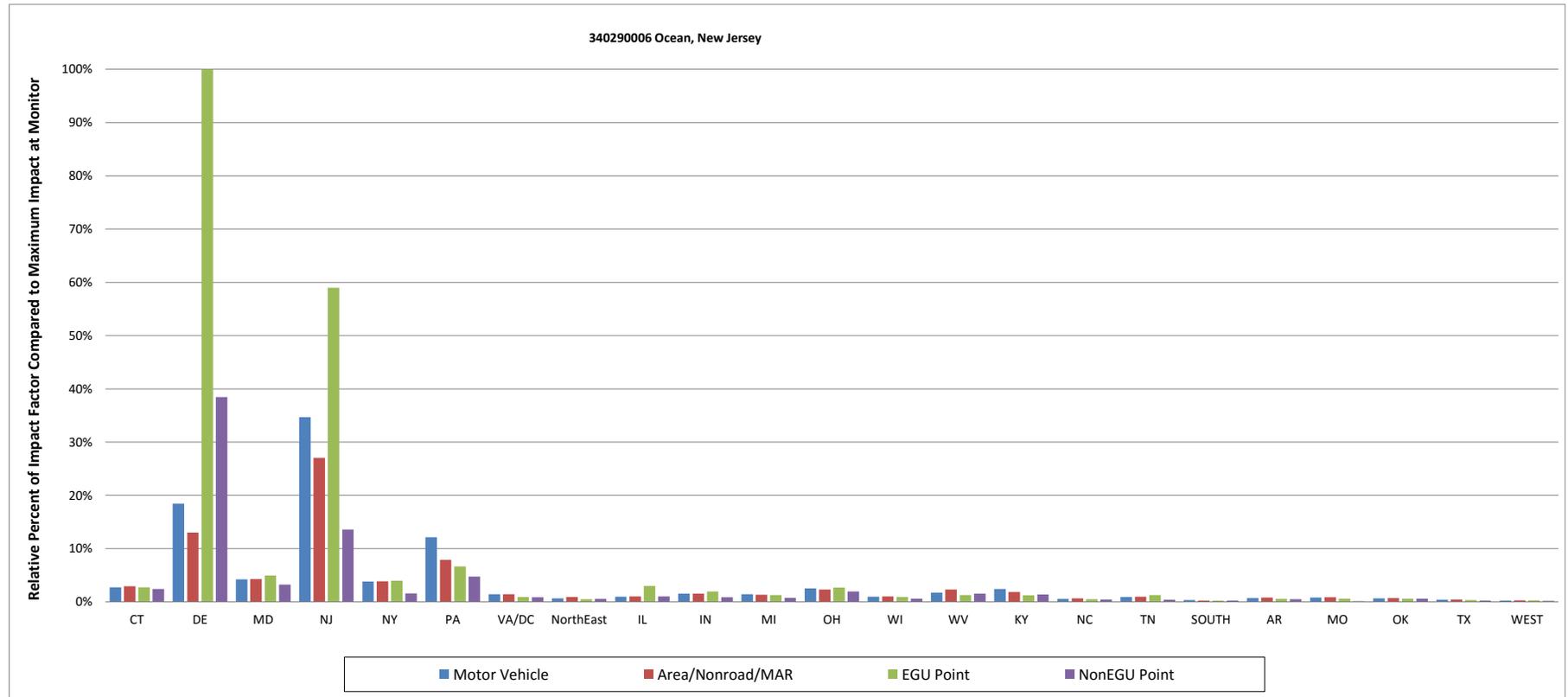
Impact Factor Comparison Relative ppb/ton Impact for Anthropogenic Source Categories

Monitor 340290006 Ocean, New Jersey

2017 OSAT Results (Modeled ppb) -- 75 ppb Threshold

Row Labels	Area/NR/				Boundary				Initial	Total	of Total
	Bio/Fire	Motor Vehicle	MAR	EGU Point	nEGU Point	Can/Mex/Water					
BC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.15	0.00	14.15	19%
IC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.04	0%
CT	0.11	0.14	0.17	0.01	0.02	0.00	0.00	0.00	0.45	1%	1%
DE	0.15	0.37	0.34	0.25	0.16	0.00	0.00	0.00	1.27	2%	2%
MD	0.37	0.52	0.50	0.15	0.14	0.00	0.00	0.00	1.67	2%	2%
NJ	2.07	5.36	3.96	1.61	0.42	0.03	0.00	0.00	13.44	18%	18%
NY	0.84	0.97	1.34	0.20	0.15	0.05	0.00	0.00	3.55	5%	5%
PA	1.79	3.46	3.12	2.31	0.77	0.00	0.00	0.00	11.45	15%	15%
VA/DC	0.39	0.35	0.29	0.06	0.08	0.00	0.00	0.00	1.18	2%	2%
NorthEast	0.17	0.12	0.21	0.01	0.04	0.01	0.00	0.00	0.56	1%	1%
IL	0.37	0.30	0.44	0.32	0.17	0.00	0.00	0.00	1.60	2%	2%
IN	0.33	0.38	0.33	0.58	0.16	0.00	0.00	0.00	1.79	2%	2%
MI	0.41	0.39	0.33	0.27	0.11	0.06	0.00	0.00	1.58	2%	2%
OH	0.69	1.11	0.71	0.54	0.28	0.00	0.00	0.00	3.33	5%	5%
WI	0.21	0.19	0.17	0.05	0.05	0.00	0.00	0.00	0.68	1%	1%
WV	0.30	0.11	0.32	0.22	0.10	0.00	0.00	0.00	1.05	1%	1%
KY	0.44	0.42	0.38	0.33	0.11	0.00	0.00	0.00	1.68	2%	2%
NC	0.15	0.14	0.11	0.07	0.05	0.00	0.00	0.00	0.51	1%	1%
TN	0.17	0.27	0.16	0.05	0.04	0.00	0.00	0.00	0.69	1%	1%
SOUTH	0.51	0.48	0.41	0.15	0.21	0.00	0.00	0.00	1.76	2%	2%
AR	0.24	0.11	0.11	0.05	0.05	0.00	0.00	0.00	0.55	1%	1%
MO	0.33	0.21	0.20	0.08	0.01	0.00	0.00	0.00	0.83	1%	1%
OK	0.29	0.12	0.23	0.10	0.13	0.00	0.00	0.00	0.87	1%	1%
TX	0.53	0.31	0.55	0.16	0.16	0.02	0.00	0.00	1.72	2%	2%
WEST	1.69	0.58	0.95	0.37	0.22	0.01	0.00	0.00	3.82	5%	5%
Can/Mex/Water	0.70	0.00	0.25	0.00	0.00	2.74	0.00	0.00	3.69	5%	5%
Grand Total	13.25	16.41	15.58	7.94	3.61	2.92	14.15	0.04	73.90	100%	

Region	EPA 2017eh CSAPR Platform May-Sept NOx (tons)				Impact Factor (ppb/ton) from IPM 5.14 Base Case			
	Motor Vehicle	Area/Nonroad/MAR	EGU Point	NonEGU Point	Motor Vehicle	Area/Nonroad/MAR	EGU Point	NonEGU Point
CT	7,404	8,635	493	1,105	1.85E-05	2.01E-05	1.85E-05	1.65E-05
DE	2,978	3,804	362	628	1.26E-04	8.89E-05	6.82E-04	2.62E-04
MD	18,204	17,239	4,348	6,213	2.86E-05	2.92E-05	3.36E-05	2.21E-05
NJ	22,647	21,484	4,001	4,544	2.36E-04	1.84E-04	4.02E-04	9.25E-05
NY	37,455	51,374	7,396	13,738	2.59E-05	2.62E-05	2.72E-05	1.06E-05
PA	41,920	58,085	50,870	23,734	8.25E-05	5.37E-05	4.55E-05	3.23E-05
VA/DC	34,992	30,088	10,438	14,251	9.92E-06	9.72E-06	6.13E-06	5.77E-06
NorthEast	26,600	33,674	2,730	10,171	4.47E-06	6.24E-06	3.35E-06	3.59E-06
IL	45,832	62,005	15,706	24,668	6.58E-06	7.07E-06	2.04E-05	7.04E-06
IN	37,038	31,009	43,842	27,222	1.04E-05	1.06E-05	1.33E-05	6.04E-06
MI	40,628	36,775	32,167	21,867	9.67E-06	8.95E-06	8.52E-06	5.02E-06
OH	64,435	44,802	29,599	21,280	1.72E-05	1.59E-05	1.82E-05	1.33E-05
WI	29,803	25,362	8,690	11,181	6.44E-06	6.85E-06	6.31E-06	4.09E-06
WV	9,327	20,288	25,582	9,678	1.18E-05	1.58E-05	8.57E-06	1.04E-05
KY	25,817	30,276	38,968	11,456	1.63E-05	1.27E-05	8.44E-06	9.57E-06
NC	35,488	24,715	21,929	15,711	3.86E-06	4.44E-06	3.33E-06	2.91E-06
TN	41,558	24,035	6,383	13,493	6.38E-06	6.46E-06	8.59E-06	2.71E-06
SOUTH	210,502	233,395	80,999	124,628	2.30E-06	1.76E-06	1.81E-06	1.69E-06
AR	22,020	19,708	11,888	13,400	4.98E-06	5.56E-06	3.84E-06	3.41E-06
MO	37,462	33,708	20,572	9,238	5.61E-06	5.96E-06	4.00E-06	9.89E-07
OK	26,238	48,653	24,329	32,203	4.53E-06	4.70E-06	4.13E-06	3.97E-06
TX	114,242	189,701	66,585	95,670	2.72E-06	2.89E-06	2.33E-06	1.62E-06
WEST	395,802	482,745	180,994	167,883	1.48E-06	1.97E-06	2.02E-06	1.31E-06



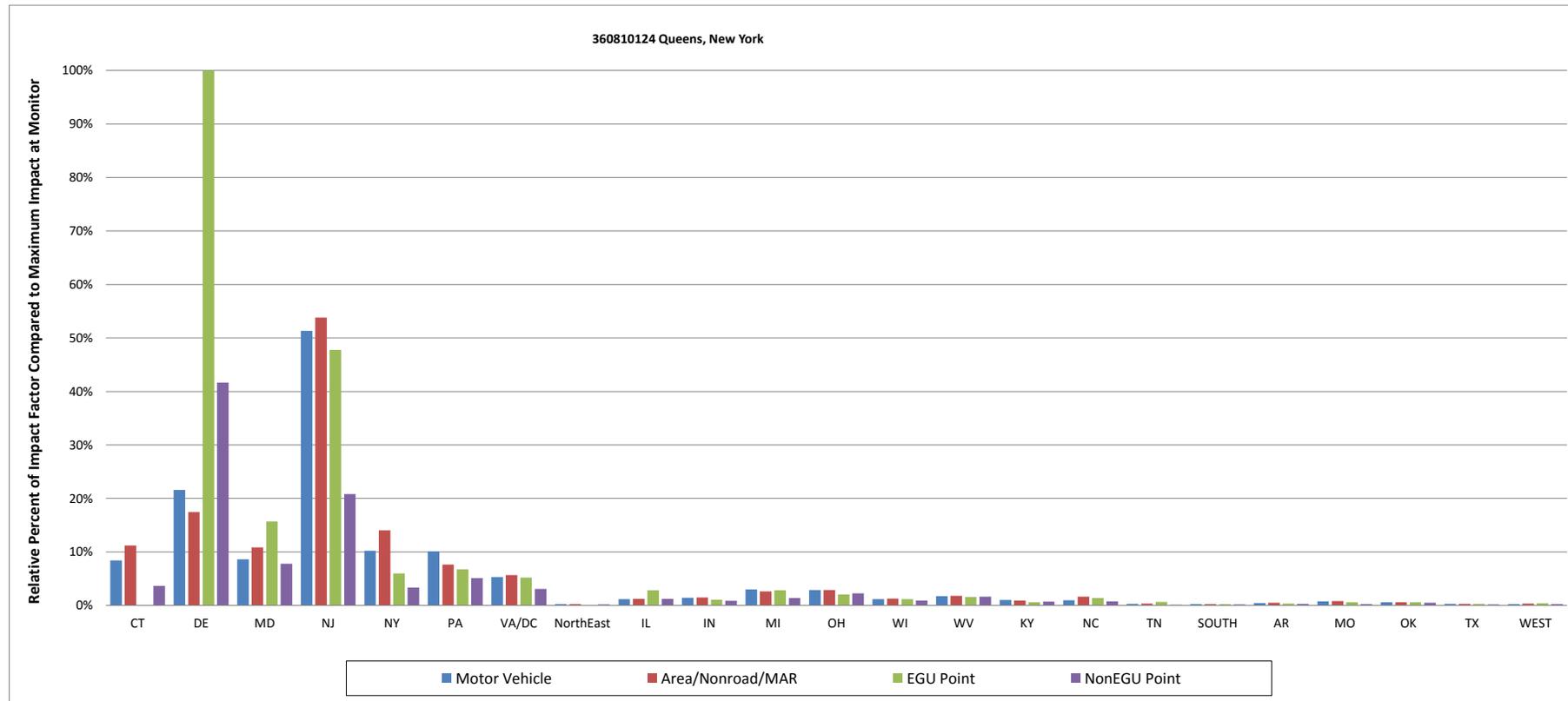
Impact Factor Comparison Relative ppb/ton Impact for Anthropogenic Source Categories

Monitor 360810124 Queens, New York

2017 OSAI Results (Modeled ppb) -- 75 ppb Threshold

Row Labels	Bio/Fire	Motor Vehicle	Area/NR/ MAR	EGU Point	nEGU Point	Can/Mex/Water	Boundary	Initial	Total	of Total
BC	0.00	0.00	0.00	0.00	0.00	0.00	17.31	0.00	17.31	23%
IC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.03	0%
CT	0.27	0.29	0.46	0.00	0.02	0.00	0.00	0.00	1.04	1%
DE	0.20	0.30	0.31	0.17	0.12	0.01	0.00	0.00	1.12	1%
MD	0.71	0.74	0.88	0.32	0.23	0.00	0.00	0.00	2.89	4%
NJ	2.46	5.50	5.47	0.90	0.45	0.06	0.00	0.00	14.85	20%
NY	1.43	1.81	3.42	0.21	0.22	0.03	0.00	0.00	7.11	9%
PA	1.77	2.01	2.09	1.63	0.57	0.00	0.00	0.00	8.07	11%
VA/DC	0.97	0.88	0.81	0.26	0.21	0.00	0.00	0.00	3.12	4%
NorthEast	0.02	0.03	0.04	0.00	0.01	0.00	0.00	0.00	0.10	0%
IL	0.32	0.26	0.36	0.21	0.14	0.00	0.00	0.00	1.29	2%
IN	0.23	0.25	0.22	0.22	0.11	0.00	0.00	0.00	1.03	1%
MI	0.41	0.57	0.46	0.43	0.14	0.10	0.00	0.00	2.10	3%
OH	0.51	0.88	0.61	0.29	0.23	0.00	0.00	0.00	2.51	3%
WI	0.16	0.16	0.15	0.05	0.05	0.00	0.00	0.00	0.57	1%
WV	0.17	0.08	0.17	0.19	0.08	0.00	0.00	0.00	0.69	1%
KY	0.13	0.12	0.13	0.11	0.04	0.00	0.00	0.00	0.54	1%
NC	0.28	0.16	0.19	0.14	0.06	0.00	0.00	0.00	0.83	1%
TN	0.04	0.06	0.04	0.02	0.01	0.00	0.00	0.00	0.16	0%
SOUTH	0.27	0.26	0.24	0.09	0.12	0.00	0.00	0.00	0.97	1%
AR	0.09	0.05	0.05	0.02	0.02	0.00	0.00	0.00	0.22	0%
MO	0.22	0.13	0.13	0.06	0.01	0.00	0.00	0.00	0.55	1%
OK	0.18	0.08	0.14	0.07	0.08	0.00	0.00	0.00	0.54	1%
TX	0.26	0.15	0.29	0.09	0.08	0.01	0.00	0.00	0.87	1%
WEST	1.46	0.49	0.82	0.32	0.19	0.01	0.00	0.00	3.28	4%
Can/Mex/Water	0.54	0.00	0.39	0.00	0.00	2.98	0.00	0.00	3.91	5%
Grand Total	13.09	15.24	17.87	5.79	3.18	3.19	17.31	0.03	75.70	100%

Region	EPA 2017eh CSAPR Platform May-Sept NOx (tons)				Impact Factor (ppb/ton) from IPM 5.14 Base Case			
	Motor Vehicle	Area/Nonroad/MAR	EGU Point	NonEGU Point	Motor Vehicle	Area/Nonroad/MAR	EGU Point	NonEGU Point
CT	7,404	8,635	493	1,105	3.98E-05	5.29E-05	0.00E+00	1.72E-05
DE	2,978	3,804	362	628	1.02E-04	8.25E-05	4.73E-04	1.97E-04
MD	18,204	17,239	4,348	6,213	4.08E-05	5.13E-05	7.44E-05	3.68E-05
NJ	22,647	21,484	4,001	4,544	2.43E-04	2.55E-04	2.26E-04	9.84E-05
NY	37,455	51,374	7,396	13,738	4.83E-05	6.65E-05	2.83E-05	1.59E-05
PA	41,920	58,085	50,870	23,734	4.79E-05	3.60E-05	3.20E-05	2.41E-05
VA/DC	34,992	30,088	10,438	14,251	2.50E-05	2.69E-05	2.46E-05	1.47E-05
NorthEast	26,600	33,674	2,730	10,171	1.07E-06	1.13E-06	0.00E+00	9.36E-07
IL	45,832	62,005	15,706	24,668	5.61E-06	5.83E-06	1.33E-05	5.79E-06
IN	37,038	31,009	43,842	27,222	6.68E-06	7.06E-06	4.99E-06	4.19E-06
MI	40,628	36,775	32,167	21,867	1.41E-05	1.24E-05	1.33E-05	6.53E-06
OH	64,435	44,802	29,599	21,280	1.36E-05	1.36E-05	9.64E-06	1.07E-05
WI	29,803	25,362	8,690	11,181	5.43E-06	6.00E-06	5.48E-06	4.26E-06
WV	9,327	20,288	25,582	9,678	8.16E-06	8.44E-06	7.44E-06	7.87E-06
KY	25,817	30,276	38,968	11,456	4.79E-06	4.40E-06	2.93E-06	3.32E-06
NC	35,488	24,715	21,929	15,711	4.56E-06	7.70E-06	6.51E-06	3.63E-06
TN	41,558	24,035	6,383	13,493	1.37E-06	1.58E-06	2.98E-06	7.05E-07
SOUTH	210,502	233,395	80,999	124,628	1.22E-06	1.02E-06	1.06E-06	9.93E-07
AR	22,020	19,708	11,888	13,400	2.16E-06	2.41E-06	1.60E-06	1.42E-06
MO	37,462	33,708	20,572	9,238	3.56E-06	3.95E-06	2.78E-06	1.03E-06
OK	26,238	48,653	24,329	32,203	2.90E-06	2.93E-06	2.74E-06	2.36E-06
TX	114,242	189,701	66,585	95,670	1.33E-06	1.50E-06	1.29E-06	7.96E-07
WEST	395,802	482,745	180,994	167,883	1.23E-06	1.70E-06	1.79E-06	1.13E-06



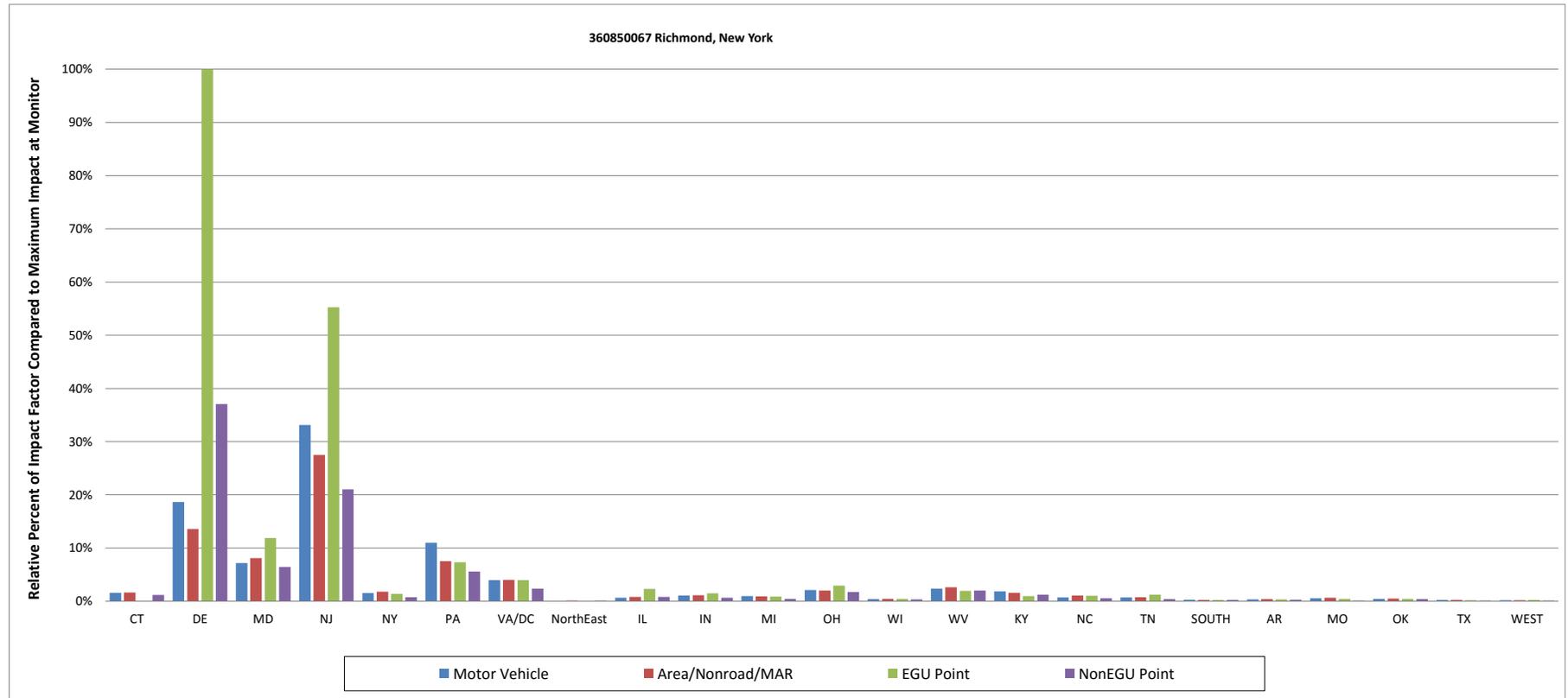
Impact Factor Comparison Relative ppb/ton Impact for Anthropogenic Source Categories

Monitor 360850067 Richmond, New York

2017 OSAI Results (Modeled ppb) -- 75 ppb Threshold

Row Labels	Bio/Fire	Motor Vehicle	Area/NR/ MAR	EGU Point	nEGU Point	Can/Mex/Water	Boundary	Initial	Total	of Total
BC	0.00	0.00	0.00	0.00	0.00	0.00	16.82	0.00	16.82	22%
CT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05	0%
DE	0.08	0.09	0.11	0.00	0.01	0.00	0.00	0.00	0.28	0%
MD	0.22	0.41	0.38	0.27	0.17	0.00	0.00	0.00	1.45	2%
NJ	0.80	0.96	1.03	0.38	0.30	0.00	0.00	0.00	3.47	5%
NY	2.42	5.54	4.36	1.63	0.71	0.01	0.00	0.00	14.67	19%
PA	0.38	0.43	0.68	0.08	0.08	0.02	0.00	0.00	1.66	2%
VA/DC	2.16	3.40	3.23	2.75	0.97	0.00	0.00	0.00	12.51	16%
NorthEast	1.09	1.03	0.80	0.31	0.25	0.00	0.00	0.00	3.57	5%
IL	0.02	0.02	0.04	0.00	0.01	0.00	0.00	0.00	0.09	0%
IN	0.32	0.23	0.36	0.27	0.14	0.00	0.00	0.00	1.32	2%
MI	0.25	0.30	0.26	0.48	0.13	0.00	0.00	0.00	1.41	2%
OH	0.23	0.29	0.25	0.20	0.08	0.04	0.00	0.00	1.08	1%
WI	0.65	0.99	0.66	0.64	0.28	0.00	0.00	0.00	3.22	4%
WV	0.10	0.09	0.09	0.03	0.03	0.00	0.00	0.00	0.32	0%
KY	0.36	0.16	0.39	0.37	0.14	0.00	0.00	0.00	1.43	2%
NC	0.35	0.35	0.35	0.28	0.11	0.00	0.00	0.00	1.44	2%
TN	0.29	0.19	0.19	0.16	0.07	0.00	0.00	0.00	0.90	1%
SOUTH	0.15	0.22	0.13	0.06	0.04	0.00	0.00	0.00	0.60	1%
AR	0.45	0.49	0.38	0.15	0.20	0.00	0.00	0.00	1.67	2%
MO	0.11	0.06	0.06	0.03	0.03	0.00	0.00	0.00	0.29	0%
OK	0.24	0.15	0.16	0.07	0.01	0.00	0.00	0.00	0.63	1%
TX	0.20	0.09	0.17	0.08	0.10	0.00	0.00	0.00	0.63	1%
WEST	0.32	0.19	0.37	0.11	0.11	0.01	0.00	0.00	1.10	1%
Can/Mex/Water	1.38	0.49	0.76	0.32	0.19	0.01	0.00	0.00	3.15	4%
Grand Total	0.47	0.00	0.29	0.00	0.00	1.79	0.00	0.00	2.55	3%
Grand Total	13.03	16.15	15.60	8.64	4.13	1.88	16.82	0.05	76.30	100%

Region	EPA 2017eh CSAPR Platform May-Sept NOx (tons)				Impact Factor (ppb/ton) from IPM 5.14 Base Case			
	Motor Vehicle	Area/Nonroad/MAR	EGU Point	NonEGU Point	Motor Vehicle	Area/Nonroad/MAR	EGU Point	NonEGU Point
CT	7,404	8,635	493	1,105	1.16E-05	1.22E-05	0.00E+00	8.64E-06
DE	2,978	3,804	362	628	1.38E-04	1.00E-04	7.38E-04	2.74E-04
MD	18,204	17,239	4,348	6,213	5.30E-05	5.98E-05	8.78E-05	4.76E-05
NJ	22,647	21,484	4,001	4,544	2.44E-04	2.03E-04	4.08E-04	1.55E-04
NY	37,455	51,374	7,396	13,738	1.15E-05	1.32E-05	1.03E-05	5.56E-06
PA	41,920	58,085	50,870	23,734	8.11E-05	5.55E-05	5.40E-05	4.10E-05
VA/DC	34,992	30,088	10,438	14,251	2.95E-05	2.98E-05	2.93E-05	1.74E-05
NorthEast	26,600	33,674	2,730	10,171	7.18E-07	1.13E-06	0.00E+00	9.39E-07
IL	45,832	62,005	15,706	24,668	5.00E-06	5.85E-06	1.70E-05	5.80E-06
IN	37,038	31,009	43,842	27,222	7.99E-06	8.31E-06	1.09E-05	4.91E-06
MI	40,628	36,775	32,167	21,867	7.05E-06	6.75E-06	6.23E-06	3.49E-06
OH	64,435	44,802	29,599	21,280	1.54E-05	1.47E-05	2.16E-05	1.30E-05
WI	29,803	25,362	8,690	11,181	2.88E-06	3.39E-06	3.30E-06	2.56E-06
WV	9,327	20,288	25,582	9,678	1.74E-05	1.93E-05	1.46E-05	1.48E-05
KY	25,817	30,276	38,968	11,456	1.37E-05	1.17E-05	7.10E-06	9.17E-06
NC	35,488	24,715	21,929	15,711	5.38E-06	7.72E-06	7.40E-06	4.25E-06
TN	41,558	24,035	6,383	13,493	5.28E-06	5.56E-06	8.97E-06	2.83E-06
SOUTH	210,502	233,395	80,999	124,628	2.31E-06	1.64E-06	1.89E-06	1.61E-06
AR	22,020	19,708	11,888	13,400	2.60E-06	2.91E-06	2.41E-06	2.14E-06
MO	37,462	33,708	20,572	9,238	4.08E-06	4.81E-06	3.25E-06	1.03E-06
OK	26,238	48,653	24,329	32,203	3.27E-06	3.53E-06	3.14E-06	2.96E-06
TX	114,242	189,701	66,585	95,670	1.67E-06	1.96E-06	1.58E-06	1.10E-06
WEST	395,802	482,745	180,994	167,883	1.23E-06	1.58E-06	1.74E-06	1.14E-06



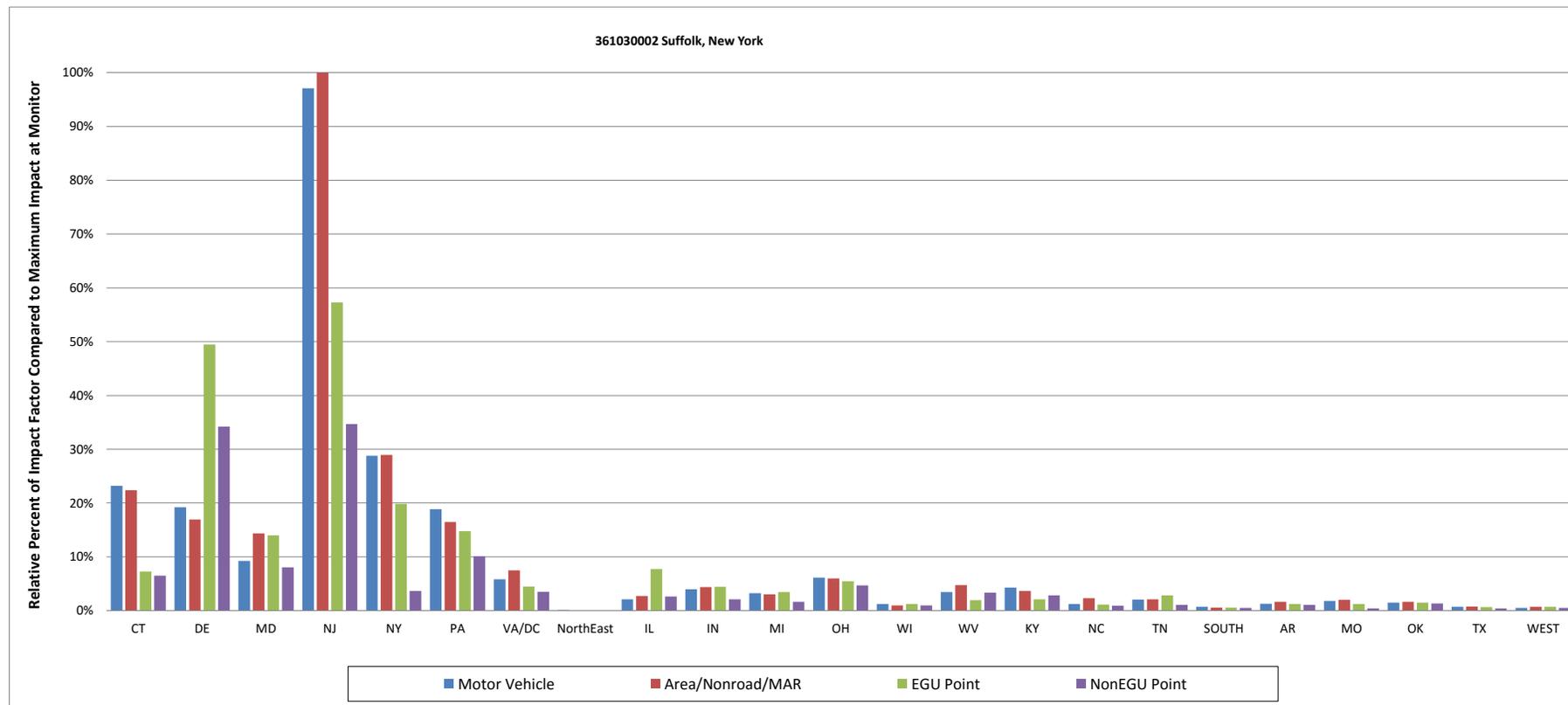
Impact Factor Comparison Relative ppb/ton Impact for Anthropogenic Source Categories

Monitor 361030002 Suffolk, New York

2017 OSAT Results (Modeled ppb) -- 75 ppb Threshold

Row Labels	Area/NR/							Boundary	Initial	Total	of Total
	Bio/Fire	Motor Vehicle	MAR	EGU Point	nEGU Point	Can/Mex/Water					
BC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.86	0.00	15.86	20%
IC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.03	0%
CT	0.25	0.45	0.51	0.01	0.02	0.00	0.00	0.00	0.00	1.24	2%
DE	0.11	0.15	0.17	0.05	0.06	0.01	0.00	0.00	0.00	0.55	1%
MD	0.49	0.44	0.65	0.16	0.13	0.00	0.00	0.00	0.00	1.88	2%
NJ	2.75	5.79	5.66	0.60	0.41	0.04	0.00	0.00	0.00	15.25	19%
NY	2.54	2.84	3.91	0.39	0.13	0.02	0.00	0.00	0.00	9.82	12%
PA	2.89	2.08	2.52	1.98	0.63	0.00	0.00	0.00	0.00	10.11	13%
VA/DC	0.67	0.54	0.59	0.12	0.13	0.00	0.00	0.00	0.00	2.05	3%
NorthEast	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0%
IL	0.42	0.25	0.44	0.32	0.17	0.00	0.00	0.00	0.00	1.61	2%
IN	0.35	0.39	0.36	0.51	0.15	0.00	0.00	0.00	0.00	1.75	2%
MI	0.25	0.35	0.29	0.29	0.09	0.06	0.00	0.00	0.00	1.33	2%
OH	0.73	1.04	0.71	0.42	0.26	0.00	0.00	0.00	0.00	3.16	4%
WI	0.08	0.09	0.07	0.03	0.03	0.00	0.00	0.00	0.00	0.30	0%
WV	0.25	0.08	0.25	0.13	0.08	0.00	0.00	0.00	0.00	0.81	1%
KY	0.36	0.29	0.29	0.22	0.08	0.00	0.00	0.00	0.00	1.24	2%
NC	0.17	0.11	0.15	0.07	0.04	0.00	0.00	0.00	0.00	0.54	1%
TN	0.20	0.23	0.13	0.05	0.04	0.00	0.00	0.00	0.00	0.64	1%
SOUTH	0.47	0.41	0.33	0.12	0.16	0.00	0.00	0.00	0.00	1.49	2%
AR	0.18	0.08	0.08	0.04	0.04	0.00	0.00	0.00	0.00	0.41	1%
MO	0.29	0.18	0.18	0.07	0.01	0.00	0.00	0.00	0.00	0.73	1%
OK	0.24	0.10	0.21	0.09	0.11	0.00	0.00	0.00	0.00	0.75	1%
TX	0.34	0.21	0.38	0.11	0.10	0.01	0.00	0.00	0.00	1.15	1%
WEST	1.53	0.53	0.87	0.35	0.22	0.01	0.00	0.00	0.00	3.50	4%
Can/Mex/Water	0.43	0.00	0.30	0.00	0.00	2.22	0.00	0.00	0.00	2.96	4%
Grand Total	16.01	16.64	19.06	6.13	3.11	2.37	15.86	0.03	79.20	100%	

Region	EPA 2017eh CSAPR Platform May-Sept NOx (tons)				Impact Factor (ppb/ton) from IPM 5.14 Base Case			
	Motor Vehicle	Area/Nonroad/MAR	EGU Point	NonEGU Point	Motor Vehicle	Area/Nonroad/MAR	EGU Point	NonEGU Point
CT	7,404	8,635	493	1,105	6.11E-05	5.89E-05	1.91E-05	1.71E-05
DE	2,978	3,804	362	628	5.07E-05	4.46E-05	1.30E-04	9.01E-05
MD	18,204	17,239	4,348	6,213	2.43E-05	3.77E-05	3.69E-05	2.12E-05
NJ	22,647	21,484	4,001	4,544	2.56E-04	2.63E-04	1.51E-04	9.13E-05
NY	37,455	51,374	7,396	13,738	7.59E-05	7.61E-05	5.23E-05	9.61E-06
PA	41,920	58,085	50,870	23,734	4.97E-05	4.33E-05	3.89E-05	2.66E-05
VA/DC	34,992	30,088	10,438	14,251	1.54E-05	1.97E-05	1.17E-05	9.26E-06
NorthEast	26,600	33,674	2,730	10,171	3.54E-07	2.80E-07	0.00E+00	0.00E+00
IL	45,832	62,005	15,706	24,668	5.55E-06	7.15E-06	2.04E-05	6.88E-06
IN	37,038	31,009	43,842	27,222	1.04E-05	1.16E-05	1.16E-05	5.54E-06
MI	40,628	36,775	32,167	21,867	8.58E-06	7.95E-06	9.08E-06	4.31E-06
OH	64,435	44,802	29,599	21,280	1.61E-05	1.58E-05	1.43E-05	1.24E-05
WI	29,803	25,362	8,690	11,181	3.16E-06	2.60E-06	3.25E-06	2.53E-06
WV	9,327	20,288	25,582	9,678	9.10E-06	1.25E-05	5.16E-06	8.77E-06
KY	25,817	30,276	38,968	11,456	1.13E-05	9.65E-06	5.56E-06	7.41E-06
NC	35,488	24,715	21,929	15,711	3.19E-06	6.10E-06	3.01E-06	2.40E-06
TN	41,558	24,035	6,383	13,493	5.44E-06	5.49E-06	7.38E-06	2.79E-06
SOUTH	210,502	233,395	80,999	124,628	1.93E-06	1.41E-06	1.51E-06	1.29E-06
AR	22,020	19,708	11,888	13,400	3.42E-06	4.30E-06	3.17E-06	2.81E-06
MO	37,462	33,708	20,572	9,238	4.78E-06	5.31E-06	3.21E-06	1.02E-06
OK	26,238	48,653	24,329	32,203	3.95E-06	4.26E-06	3.87E-06	3.51E-06
TX	114,242	189,701	66,585	95,670	1.82E-06	1.99E-06	1.70E-06	1.08E-06
WEST	395,802	482,745	180,994	167,883	1.33E-06	1.80E-06	1.93E-06	1.29E-06



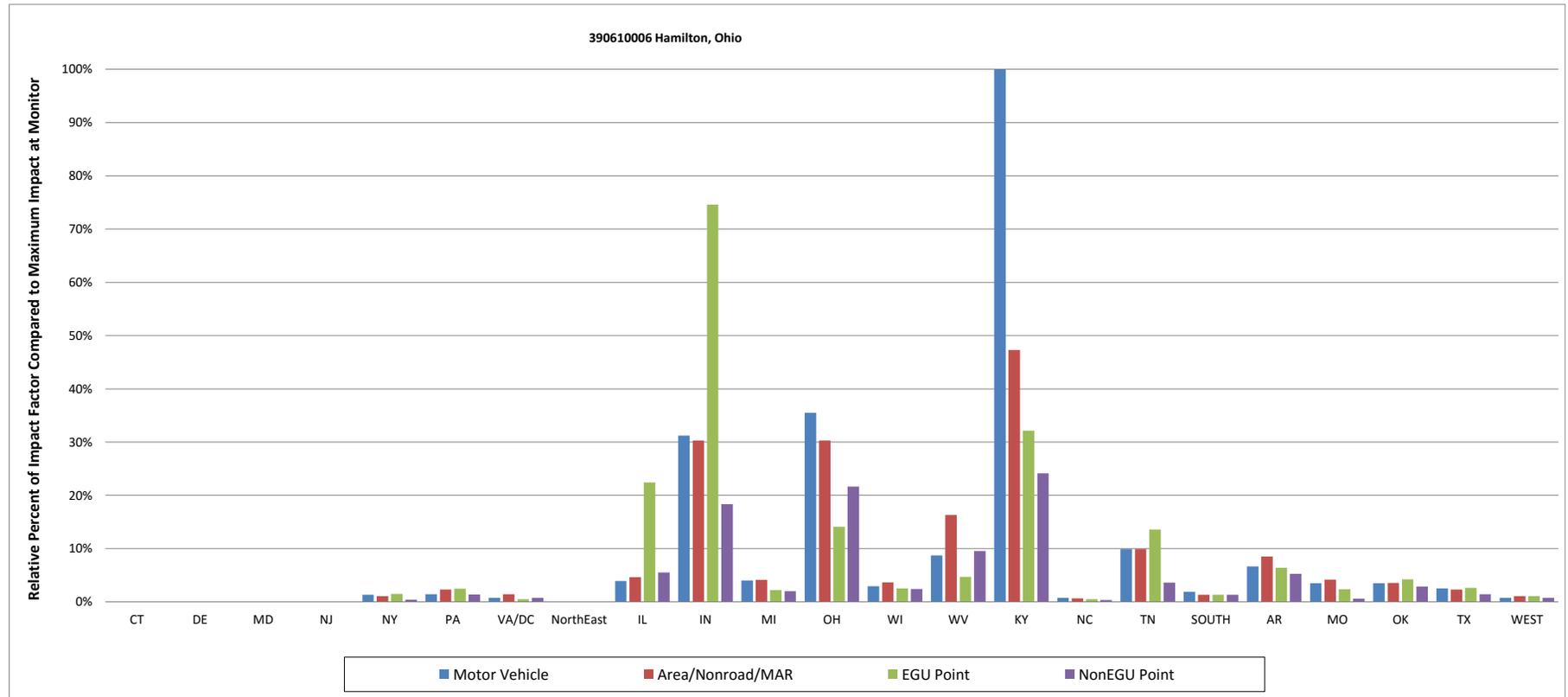
Impact Factor Comparison Relative ppb/ton Impact for Anthropogenic Source Categories

Monitor 390610006 Hamilton, Ohio

2017 OSAT Results (Modeled ppb) -- 75 ppb Threshold

Row Labels	Bio/Fire	Motor Vehicle	Area/NR/ MAR	EGU Point	nEGU Point	Can/Mex/Water	Boundary	Initial	Total	of Total
BC	0.00	0.00	0.00	0.00	0.00	0.00	16.72	0.00	16.72	22%
IC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0%
CT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0%
DE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0%
MD	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0%
NJ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0%
NY	0.07	0.09	0.10	0.02	0.01	0.01	0.00	0.00	0.29	0%
PA	0.13	0.11	0.24	0.22	0.06	0.00	0.00	0.00	0.76	1%
VA/DC	0.06	0.05	0.08	0.01	0.02	0.00	0.00	0.00	0.21	0%
NorthEast	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0%
IL	0.52	0.32	0.52	0.63	0.24	0.00	0.00	0.00	2.23	3%
IN	2.66	2.07	1.68	5.87	0.90	0.00	0.00	0.00	13.17	17%
MI	0.32	0.29	0.27	0.13	0.08	0.02	0.00	0.00	1.11	1%
OH	2.21	4.11	2.43	0.75	0.83	0.00	0.00	0.00	10.32	14%
WI	0.21	0.16	0.17	0.04	0.05	0.00	0.00	0.00	0.62	1%
WV	0.57	0.15	0.59	0.21	0.17	0.00	0.00	0.00	1.69	2%
KY	2.63	4.63	2.57	2.25	0.50	0.00	0.00	0.00	12.57	16%
NC	0.04	0.05	0.03	0.02	0.01	0.00	0.00	0.00	0.15	0%
TN	0.75	0.74	0.43	0.16	0.09	0.00	0.00	0.00	2.16	3%
SOUTH	0.78	0.71	0.55	0.19	0.30	0.00	0.00	0.00	2.54	3%
AR	0.65	0.26	0.30	0.14	0.13	0.00	0.00	0.00	1.48	2%
MO	0.43	0.23	0.25	0.09	0.01	0.00	0.00	0.00	1.01	1%
OK	0.35	0.17	0.31	0.18	0.17	0.00	0.00	0.00	1.18	2%
TX	0.69	0.52	0.78	0.31	0.24	0.01	0.00	0.00	2.55	3%
WEST	1.83	0.54	0.91	0.34	0.22	0.01	0.00	0.00	3.86	5%
Can/Mex/Water	0.32	0.00	0.21	0.00	0.00	1.12	0.00	0.00	1.65	2%
Grand Total	15.21	15.19	12.43	11.56	4.01	1.17	16.72	0.02	76.30	100%

Region	EPA 2017eh CSAPR Platform May-Sept NOx (tons)				Impact Factor (ppb/ton) from IPM 5.14 Base Case			
	Motor Vehicle	Area/Nonroad/MAR	EGU Point	NonEGU Point	Motor Vehicle	Area/Nonroad/MAR	EGU Point	NonEGU Point
CT	7,404	8,635	493	1,105	0.00E+00	0.00E+00	0.00E+00	0.00E+00
DE	2,978	3,804	362	628	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MD	18,204	17,239	4,348	6,213	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NJ	22,647	21,484	4,001	4,544	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NY	37,455	51,374	7,396	13,738	2.34E-06	1.89E-06	2.63E-06	7.08E-07
PA	41,920	58,085	50,870	23,734	2.55E-06	4.19E-06	4.40E-06	2.46E-06
VA/DC	34,992	30,088	10,438	14,251	1.39E-06	2.59E-06	9.32E-07	1.37E-06
NorthEast	26,600	33,674	2,730	10,171	0.00E+00	0.00E+00	0.00E+00	0.00E+00
IL	45,832	62,005	15,706	24,668	7.00E-06	8.32E-06	4.03E-05	9.86E-06
IN	37,038	31,009	43,842	27,222	5.59E-05	5.43E-05	1.34E-04	3.29E-05
MI	40,628	36,775	32,167	21,867	7.18E-06	7.41E-06	3.93E-06	3.56E-06
OH	64,435	44,802	29,599	21,280	6.37E-05	5.43E-05	2.53E-05	3.89E-05
WI	29,803	25,362	8,690	11,181	5.22E-06	6.52E-06	4.48E-06	4.35E-06
WV	9,327	20,288	25,582	9,678	1.56E-05	2.92E-05	8.37E-06	1.71E-05
KY	25,817	30,276	38,968	11,456	1.79E-04	8.48E-05	5.77E-05	4.33E-05
NC	35,488	24,715	21,929	15,711	1.37E-06	1.18E-06	8.87E-07	6.19E-07
TN	41,558	24,035	6,383	13,493	1.78E-05	1.78E-05	2.44E-05	6.49E-06
SOUTH	210,502	233,395	80,999	124,628	3.37E-06	2.38E-06	2.40E-06	2.42E-06
AR	22,020	19,708	11,888	13,400	1.19E-05	1.53E-05	1.15E-05	9.44E-06
MO	37,462	33,708	20,572	9,238	6.23E-06	7.50E-06	4.26E-06	1.05E-06
OK	26,238	48,653	24,329	32,203	6.30E-06	6.40E-06	7.60E-06	5.14E-06
TX	114,242	189,701	66,585	95,670	4.51E-06	4.10E-06	4.68E-06	2.54E-06
WEST	395,802	482,745	180,994	167,883	1.38E-06	1.89E-06	1.88E-06	1.33E-06



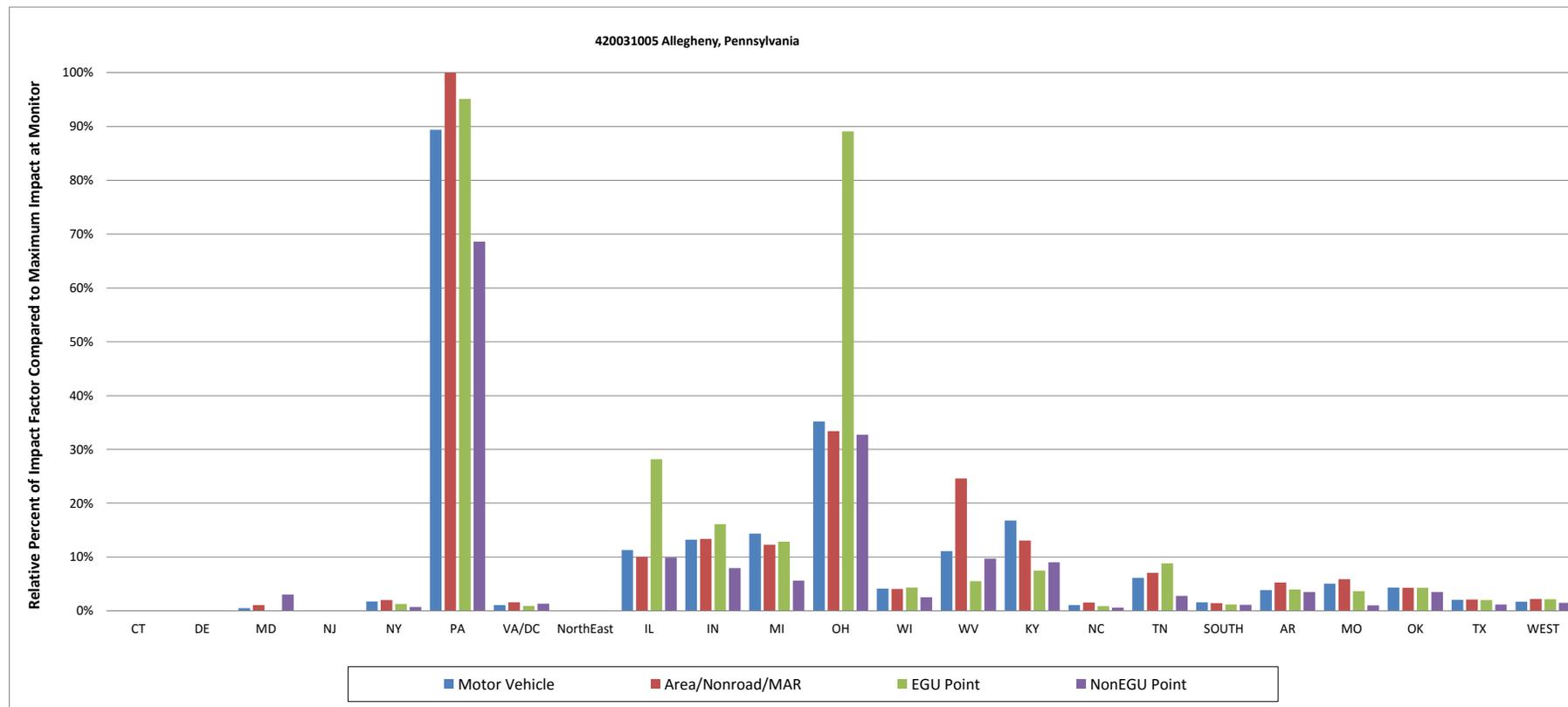
Impact Factor Comparison Relative ppb/ton Impact for Anthropogenic Source Categories

Monitor 420031005 Allegheny, Pennsylvania

2017 OSAI Results (Modeled ppb) -- 75 ppb Threshold

Row Labels	Bio/Fire	Motor Vehicle	MAR	EGU Point	nEGU Point	Can/Mex/Water	Boundary	Initial	Total	of Total
BC	0.00	0.00	0.00	0.00	0.00	0.00	19.93	0.00	19.93	26%
CT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05	0%
DE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0%
MD	0.03	0.01	0.02	0.00	0.02	0.00	0.00	0.00	0.07	0%
NJ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0%
NY	0.10	0.06	0.10	0.01	0.01	0.01	0.00	0.00	0.30	0%
PA	5.12	3.69	5.72	4.77	1.60	0.00	0.00	0.00	20.91	28%
VA/DC	0.05	0.04	0.05	0.01	0.02	0.00	0.00	0.16	0%	
NorthEast	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0%
IL	0.56	0.51	0.61	0.44	0.24	0.00	0.00	0.00	2.36	3%
IN	0.59	0.48	0.41	0.70	0.21	0.00	0.00	0.00	2.39	3%
MI	0.45	0.58	0.45	0.41	0.12	0.12	0.00	0.00	2.11	3%
OH	3.00	2.24	1.47	2.60	0.69	0.00	0.00	0.00	9.99	13%
WI	0.14	0.12	0.10	0.04	0.03	0.00	0.00	0.00	0.43	1%
WV	1.22	0.10	0.49	0.14	0.09	0.00	0.00	0.00	2.04	3%
KY	0.91	0.43	0.39	0.29	0.10	0.00	0.00	0.00	2.11	3%
NC	0.05	0.04	0.04	0.02	0.01	0.00	0.00	0.00	0.15	0%
TN	0.34	0.25	0.17	0.06	0.04	0.00	0.00	0.00	0.85	1%
SOUTH	0.62	0.33	0.32	0.09	0.14	0.00	0.00	0.00	1.51	2%
AR	0.27	0.08	0.10	0.05	0.05	0.00	0.00	0.00	0.55	1%
MO	0.45	0.19	0.19	0.07	0.01	0.00	0.00	0.00	0.91	1%
OK	0.28	0.11	0.20	0.10	0.11	0.00	0.00	0.00	0.81	1%
TX	0.44	0.23	0.39	0.13	0.11	0.01	0.00	0.00	1.31	2%
WEST	2.47	0.65	1.06	0.38	0.24	0.01	0.00	0.00	4.80	6%
Can/Mex/Water	0.45	0.00	0.11	0.00	0.00	1.00	0.00	0.00	1.56	2%
Grand Total	17.50	10.14	12.40	10.29	3.84	1.15	19.93	0.05	75.30	100%

Region	EPA 2017eh CSAPR Platform May-Sept NOx (tons)				Impact Factor (ppb/ton) from IPM 5.14 Base Case			
	Motor Vehicle	Area/Nonroad/MAR	EGU Point	NonEGU Point	Motor Vehicle	Area/Nonroad/MAR	EGU Point	NonEGU Point
CT	7,404	8,635	493	1,105	0.00E+00	0.00E+00	0.00E+00	0.00E+00
DE	2,978	3,804	362	628	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MD	18,204	17,239	4,348	6,213	5.10E-07	1.08E-06	0.00E+00	2.99E-06
NJ	22,647	21,484	4,001	4,544	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NY	37,455	51,374	7,396	13,738	1.73E-06	1.99E-06	1.25E-06	6.75E-07
PA	41,920	58,085	50,870	23,734	8.81E-05	9.85E-05	9.37E-05	6.76E-05
VA/DC	34,992	30,088	10,438	14,251	1.06E-06	1.54E-06	8.89E-07	1.30E-06
NorthEast	26,600	33,674	2,730	10,171	0.00E+00	0.00E+00	0.00E+00	0.00E+00
IL	45,832	62,005	15,706	24,668	1.11E-05	9.87E-06	2.78E-05	9.78E-06
IN	37,038	31,009	43,842	27,222	1.30E-05	1.32E-05	1.59E-05	7.84E-06
MI	40,628	36,775	32,167	21,867	1.42E-05	1.21E-05	1.27E-05	5.51E-06
OH	64,435	44,802	29,599	21,280	3.47E-05	3.29E-05	8.77E-05	3.23E-05
WI	29,803	25,362	8,690	11,181	4.05E-06	4.02E-06	4.27E-06	2.49E-06
WV	9,327	20,288	25,582	9,678	1.09E-05	2.42E-05	5.44E-06	9.58E-06
KY	25,817	30,276	38,968	11,456	1.65E-05	1.29E-05	7.38E-06	8.91E-06
NC	35,488	24,715	21,929	15,711	1.05E-06	1.50E-06	8.46E-07	5.90E-07
TN	41,558	24,035	6,383	13,493	6.03E-06	6.95E-06	8.72E-06	2.75E-06
SOUTH	210,502	233,395	80,999	124,628	1.59E-06	1.39E-06	1.15E-06	1.12E-06
AR	22,020	19,708	11,888	13,400	3.79E-06	5.18E-06	3.90E-06	3.46E-06
MO	37,462	33,708	20,572	9,238	4.95E-06	5.78E-06	3.61E-06	1.00E-06
OK	26,238	48,653	24,329	32,203	4.24E-06	4.19E-06	4.19E-06	3.46E-06
TX	114,242	189,701	66,585	95,670	2.03E-06	2.05E-06	1.95E-06	1.16E-06
WEST	395,802	482,745	180,994	167,883	1.64E-06	2.19E-06	2.10E-06	1.44E-06

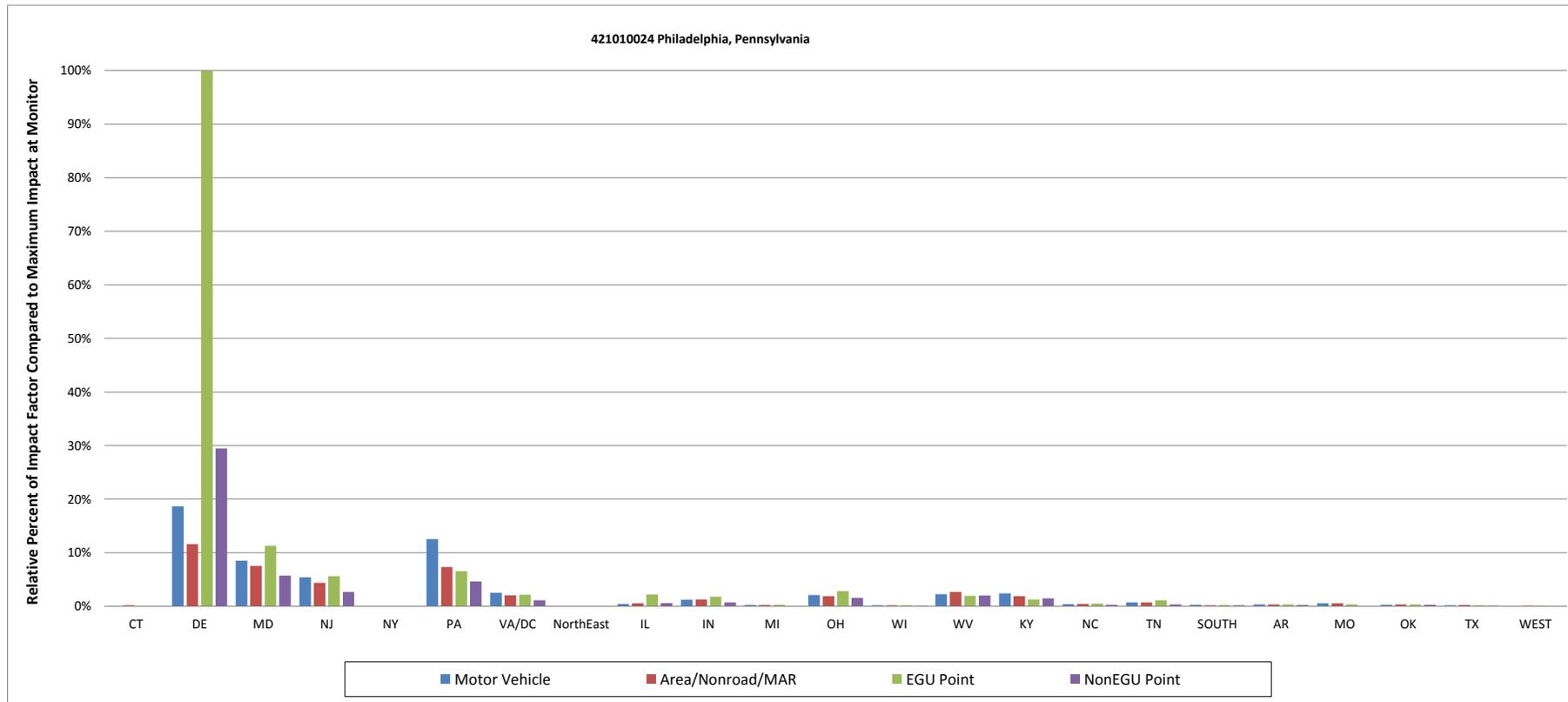


Impact Factor Comparison Relative ppb/ton Impact for Anthropogenic Source Categories

Monitor 421010024 Philadelphia, Pennsylvania
2017 OSAI Results (Modeled ppb) -- 75 ppb Threshold

Row Labels	Bio/Fire	Motor Vehicle	MAR	EGU Point	nEGU Point	Can/Mex/Water	Boundary	Initial	Total	of Total	
BC	0.00	0.00	0.00	0.00	0.00	0.00	16.00	0.00	16.00	21%	
CT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.03	0%	
DE	0.25	0.65	0.52	0.42	0.22	0.00	0.00	0.00	0.04	0%	
MD	0.79	1.82	1.52	0.58	0.42	0.00	0.00	0.00	2.06	3%	
NJ	0.31	1.44	1.10	0.26	0.14	0.00	0.00	0.00	5.13	7%	
NY	0.04	0.04	0.07	0.01	0.01	0.00	0.00	0.00	3.27	4%	
PA	2.33	6.18	5.00	3.90	1.29	0.00	0.00	0.00	0.16	0%	
VA/DC	0.84	1.04	0.73	0.26	0.19	0.00	0.00	0.00	18.71	25%	
NorthEast	0.01	0.01	0.02	0.00	0.00	0.00	0.00	0.00	3.06	4%	
IL	0.37	0.24	0.41	0.41	0.17	0.00	0.00	0.00	0.04	0%	
IN	0.45	0.54	0.46	0.93	0.23	0.00	0.00	0.00	1.59	2%	
MI	0.08	0.12	0.09	0.11	0.03	0.02	0.00	0.00	2.62	3%	
OH	1.04	1.60	0.99	0.98	0.40	0.00	0.00	0.00	4.05	1%	
WI	0.07	0.07	0.06	0.02	0.02	0.00	0.00	0.00	5.01	7%	
WV	0.57	0.25	0.63	0.59	0.23	0.00	0.00	0.00	0.23	0%	
KY	0.76	0.73	0.68	0.59	0.20	0.00	0.00	0.00	2.26	3%	
NC	0.19	0.17	0.13	0.12	0.06	0.00	0.00	0.00	2.95	4%	
TN	0.22	0.34	0.20	0.08	0.06	0.00	0.00	0.00	0.67	1%	
SOUTH	0.57	0.67	0.51	0.21	0.26	0.00	0.00	0.00	0.90	1%	
AR	0.13	0.08	0.08	0.05	0.04	0.00	0.00	0.00	2.22	3%	
MO	0.38	0.24	0.23	0.08	0.01	0.00	0.00	0.00	0.39	1%	
OK	0.22	0.09	0.20	0.09	0.11	0.00	0.00	0.00	0.00	0.93	1%
TX	0.43	0.27	0.49	0.14	0.15	0.02	0.00	0.00	0.72	1%	
WEST	1.30	0.48	0.74	0.30	0.19	0.01	0.00	0.00	1.51	2%	
Can/Mex/Water	0.16	0.00	0.18	0.00	0.00	0.81	0.00	0.00	3.02	4%	
Grand Total	11.51	17.09	15.06	10.15	4.41	0.86	16.00	0.03	75.10	100%	

Region	EPA 2017eh CSAPR Platform May-Sept NOx (tons)				Impact Factor (ppb/ton) from IPM 5.14 Base Case			
	Motor Vehicle	Area/Nonroad/MAR	EGU Point	NonEGU Point	Motor Vehicle	Area/Nonroad/MAR	EGU Point	NonEGU Point
CT	7,404	8,635	493	1,105	1.28E-06	2.19E-06	0.00E+00	0.00E+00
DE	2,978	3,804	362	628	2.19E-04	1.36E-04	1.17E-03	3.46E-04
MD	18,204	17,239	4,348	6,213	1.00E-04	8.82E-05	1.32E-04	6.69E-05
NJ	22,647	21,484	4,001	4,544	6.38E-05	5.14E-05	6.61E-05	3.12E-05
NY	37,455	51,374	7,396	13,738	1.01E-06	1.29E-06	1.28E-06	6.87E-07
PA	41,920	58,085	50,870	23,734	1.48E-04	8.61E-05	7.66E-05	5.45E-05
VA/DC	34,992	30,088	10,438	14,251	2.97E-05	2.42E-05	2.53E-05	1.32E-05
NorthEast	26,600	33,674	2,730	10,171	3.55E-07	5.61E-07	0.00E+00	0.00E+00
IL	45,832	62,005	15,706	24,668	5.15E-06	6.55E-06	2.58E-05	6.89E-06
IN	37,038	31,009	43,842	27,222	1.45E-05	1.49E-05	2.13E-05	8.32E-06
MI	40,628	36,775	32,167	21,867	3.02E-06	2.57E-06	3.52E-06	1.30E-06
OH	64,435	44,802	29,599	21,280	2.49E-05	2.21E-05	3.32E-05	1.86E-05
WI	29,803	25,362	8,690	11,181	2.22E-06	2.23E-06	2.17E-06	1.69E-06
WV	9,327	20,288	25,582	9,678	2.63E-05	3.12E-05	2.29E-05	2.34E-05
KY	25,817	30,276	38,968	11,456	2.82E-05	2.25E-05	1.50E-05	1.73E-05
NC	35,488	24,715	21,929	15,711	4.79E-06	5.35E-06	5.60E-06	3.61E-06
TN	41,558	24,035	6,383	13,493	8.18E-06	8.25E-06	1.33E-05	4.20E-06
SOUTH	210,502	233,395	80,999	124,628	3.18E-06	2.18E-06	2.56E-06	2.12E-06
AR	22,020	19,708	11,888	13,400	3.86E-06	4.31E-06	3.97E-06	2.82E-06
MO	37,462	33,708	20,572	9,238	6.30E-06	6.72E-06	4.13E-06	1.02E-06
OK	26,238	48,653	24,329	32,203	3.60E-06	4.07E-06	3.88E-06	3.52E-06
TX	114,242	189,701	66,585	95,670	2.40E-06	2.59E-06	2.13E-06	1.58E-06
WEST	395,802	482,745	180,994	167,883	1.22E-06	1.53E-06	1.67E-06	1.12E-06



Impact Factor Comparison Relative ppb/ton Impact for Anthropogenic Source Categories

Monitor 551170006 Sheboygan, Wisconsin 2017 OSAI Results (Modeled ppb) -- 75 ppb Threshold

Row Labels	Bio/Fire	Motor Vehicle	Area/NR/ MAR	EGU Point	nEGU Point	Can/Mex/Water	Boundary	Initial	Total	of Total
BC	0.00	0.00	0.00	0.00	0.00	0.00	16.08	0.00	16.08	21%
CT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0%
DE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0%
MD	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0%
NJ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0%
NY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0%
PA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0%
VA/DC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0%
NorthEast	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0%
IL	6.59	3.92	8.48	0.87	2.26	0.00	0.00	22.13	29%	
IN	2.06	0.57	1.28	0.32	0.79	0.00	0.00	5.02	7%	
MI	0.45	0.23	0.32	0.02	0.04	0.00	0.00	1.05	1%	
OH	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.03	0%	
WI	0.56	1.17	1.75	0.38	0.13	0.00	0.00	3.98	5%	
WV	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0%
KY	0.67	0.08	0.13	0.05	0.04	0.00	0.00	0.97	1%	
NC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0%
TN	1.26	0.27	0.25	0.02	0.06	0.00	0.00	1.85	2%	
SOUTH	4.66	0.90	2.18	0.32	0.98	0.01	0.00	9.05	12%	
AR	1.11	0.16	0.28	0.09	0.12	0.00	0.00	1.75	2%	
MO	0.71	0.07	0.11	0.06	0.01	0.00	0.00	0.96	1%	
OK	0.03	0.01	0.03	0.00	0.02	0.00	0.00	0.09	0%	
TX	0.51	0.29	0.60	0.11	0.18	0.02	0.00	1.70	2%	
WEST	0.94	0.50	0.61	0.18	0.16	0.01	0.00	2.40	3%	
Can/Mex/Water	0.10	0.00	8.40	0.00	0.00	1.42	0.00	9.92	13%	
Grand Total	19.65	8.18	24.44	2.41	4.79	1.46	16.08	0.00	77.00	100%

Region	EPA 2017eh CSAPR Platform May-Sept NOx (tons)				Impact Factor (ppb/ton) from IPM 5.14 Base Case			
	Motor Vehicle	Area/Nonroad/MAR	EGU Point	NonEGU Point	Motor Vehicle	Area/Nonroad/MAR	EGU Point	NonEGU Point
CT	7,404	8,635	493	1,105	0.00E+00	0.00E+00	0.00E+00	0.00E+00
DE	2,978	3,804	362	628	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MD	18,204	17,239	4,348	6,213	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NJ	22,647	21,484	4,001	4,544	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NY	37,455	51,374	7,396	13,738	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PA	41,920	58,085	50,870	23,734	0.00E+00	0.00E+00	0.00E+00	0.00E+00
VA/DC	34,992	30,088	10,438	14,251	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NorthEast	26,600	33,674	2,730	10,171	0.00E+00	0.00E+00	0.00E+00	0.00E+00
IL	45,832	62,005	15,706	24,668	8.56E-05	1.37E-04	5.55E-05	9.16E-05
IN	37,038	31,009	43,842	27,222	1.55E-05	4.12E-05	7.23E-06	2.91E-05
MI	40,628	36,775	32,167	21,867	5.61E-06	8.62E-06	6.16E-07	1.81E-06
OH	64,435	44,802	29,599	21,280	1.54E-07	2.21E-07	0.00E+00	0.00E+00
WI	29,803	25,362	8,690	11,181	3.92E-05	6.92E-05	4.33E-05	1.15E-05
WV	9,327	20,288	25,582	9,678	0.00E+00	0.00E+00	0.00E+00	0.00E+00
KY	25,817	30,276	38,968	11,456	3.07E-06	4.26E-06	1.27E-06	3.46E-06
NC	35,488	24,715	21,929	15,711	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TN	41,558	24,035	6,383	13,493	6.44E-06	1.03E-05	3.11E-06	4.41E-06
SOUTH	210,502	233,395	80,999	124,628	4.28E-06	9.34E-06	3.92E-06	7.87E-06
AR	22,020	19,708	11,888	13,400	7.20E-06	1.41E-05	7.50E-06	8.88E-06
MO	37,462	33,708	20,572	9,238	1.85E-06	3.23E-06	2.89E-06	1.07E-06
OK	26,238	48,653	24,329	32,203	3.78E-07	6.11E-07	0.00E+00	6.16E-07
TX	114,242	189,701	66,585	95,670	2.52E-06	3.19E-06	1.64E-06	1.86E-06
WEST	395,802	482,745	180,994	167,883	1.25E-06	1.27E-06	9.86E-07	9.45E-07

