Appendix A
Georgia's Contribution to Ozone in Downwind States

EPA performed air quality modeling for the final Cross State Air Pollution Rule (CSAPR) Update (81 FR 74504) to address interstate transport for the 2008 ozone National Ambient Air Quality Standard (NAAQS). Below is summary of EPA's modeling for the Final Cross State Air Pollution Rule Update. Detailed information is documented in EPA's "Air Quality Modeling Technical Support Document for the Final Cross State Air Pollution Rule Update"[1] (see Appendix B). This modeling was utilized to assess Georgia's contributions to ozone in downwind states. On June 2, 2017, the Atlanta nonattainment area was redesignated to attainment for the 2008 ozone NAAQS (82 FR 25523) making all counties in the state of Georgia attainment for the 2008 ozone NAAQS.

The base year for this modeling is 2011 due to the ozone-conducive meteorological conditions and availability of nationwide emission inventories. The future year is 2017 since the 2017 ozone season will be the last full season from which data can be used to determine attainment by the July 2018 deadline for the moderate nonattainment areas for the 2008 ozone NAAQS. Ozone concentrations were simulated using the Comprehensive Air Quality Model with Extensions (CAMx) version 6.20 with the carbon-bond 6 revision 2 (CB6r2). The CAMx model domain covers the 48 contiguous states along with the southern portions of Canada and the northern portions of Mexico using a horizontal grid resolution of 12 x 12 km. An operational model performance evaluation for ozone was conducted to examine the ability of the CAMx v6.20 modeling system to replicate 2011 measured ozone concentrations.

Ozone concentrations at individual ozone monitoring sites in 2017 were projected from the average and maximum of design values from 2009-2011, 2010-2012, and 2011-2013. If a site violates the NAAQS based on 2013-2015 design values and had a projected 2017 average design value that exceeds the NAAQS (i.e., 2017 average design value is equal to or higher than 76.0 ppb), this site was considered a nonattainment site. If a site had a projected 2017 average design values above the NAAQS and was measuring clean data based on 2013-2015 design values; or if the projected average design value was below the NAAQS but had a projected maximum design values of 76 ppb or greater, this site was considered a maintenance-only site. According to the projected 2017 ozone concentrations, there are 6 nonattainment sites and 13 maintenance sites in the Eastern U.S.

Ozone source contributions from emissions in each upwind state to ozone concentrations at projected 2017 nonattainment and maintenance sites in downwind states were simulated using the CAMx Anthropogenic Precursor Culpability Assessment (APCA) technique for the period May 1 through September 30. EPA's Excel spreadsheet "Data File with Ozone Design Values and Ozone Contributions"[2] (see Appendix C) contains Georgia's contributions to ozone concentrations at monitoring sites across the Continental U.S. Georgia's contribution to ozone concentrations at nonattainment sites in the Eastern U.S. are listed in Table A-1. The largest ozone contribution from Georgia to downwind 2017 projected nonattainment sites was 0.60 ppb. Georgia's contribution to ozone concentrations at maintenance-only sites in the Eastern U.S. are listed in Table A-2. The largest ozone contribution from Georgia to downwind 2017 projected maintenance-only sites was 0.62 ppb. As part of the CSAPR Update analysis, EPA used 1% of the NAAQS level (0.75 ppb) to define the threshold for "significant contribution". Georgia's

[1] https://www.epa.gov/sites/production/files/2017-05/documents/aq_modeling_tsd_final_csapr_update.pdf
[2] https://www.epa.gov/airmarkets/final-cross-state-air-pollution-rule-update

contribution is less than 0.75 ppb at all these monitoring sites. Therefore, Georgia does not contribute significantly to nonattainment in, or interfere with maintenance by, any other State.

Table A-1. Georgia's contribution to ozone concentrations at nonattainment sites in the Eastern U.S.

Monitor ID	State	County	2017 Average DVs (ppb)	2017 Maximum DVs (ppb)	Georgia's Contribution (ppb)
48-439-3009	Texas	Tarrant	76.4	76.4	0.60
48-439-2003	Texas	Tarrant	77.3	79.7	0.48
48-039-1004	Texas	Brazoria	79.9	80.8	0.31
09-001-9003	Connecticut	Fairfield	76.5	79.5	0.20
55-117-0006	Wisconsin	Sheboygan	76.2	78.7	0.12
09-009-9002	Connecticut	New Haven	76.2	79.2	0.09

Table A-2. Georgia's contribution to ozone concentrations at maintenance-only sites in the Eastern U.S.

Monitor ID	State	County	2017 Average DVs (ppb)	2017 Maximum DVs (ppb)	Georgia's Contribution (ppb)
42-101-0024	Pennsylvania	Philadelphia	73.6	76.9	0.62
39-061-0006	Ohio	Hamilton	74.6	77.4	0.58
48-121-0034	Texas	Denton	75	77.4	0.40
36-085-0067	New York	Richmond	75.8	77.4	0.36
48-201-1034	Texas	Harris	75.7	76.6	0.33
24-025-1001	Maryland	Harford	78.8	81.4	0.30
48-201-0024	Texas	Harris	75.4	77.9	0.29
48-201-1039	Texas	Harris	76.9	78.8	0.22
26-005-0003	Michigan	Allegan	74.7	77.7	0.20
09-001-3007	Connecticut	Fairfield	75.5	79.7	0.19
36-103-0002	New York	Suffolk	76.8	78.4	0.19
09-001-0017	Connecticut	Fairfield	74.1	76.6	0.13
21-111-0067	Kentucky	Jefferson	76.9	76.9	0.04