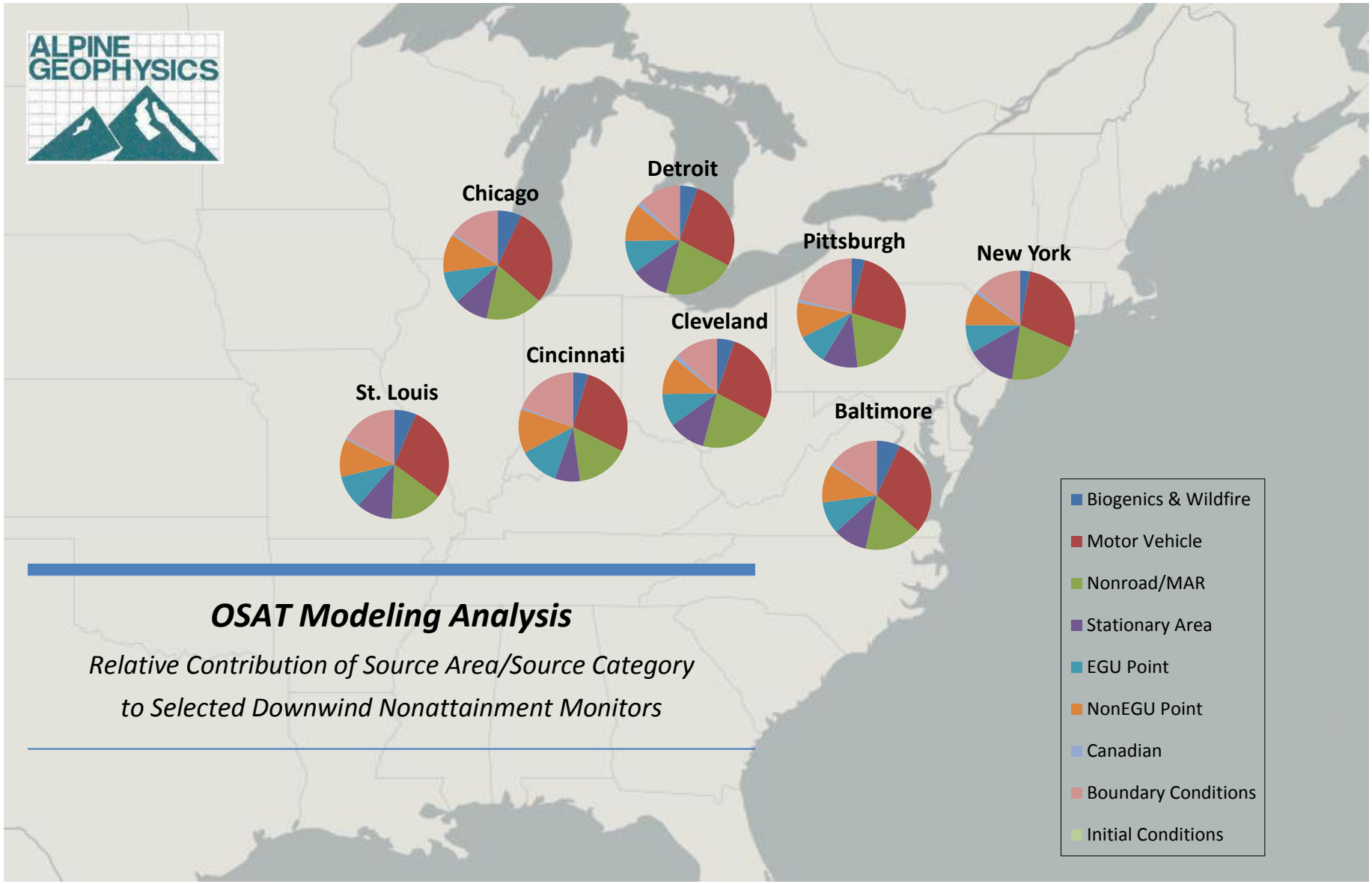
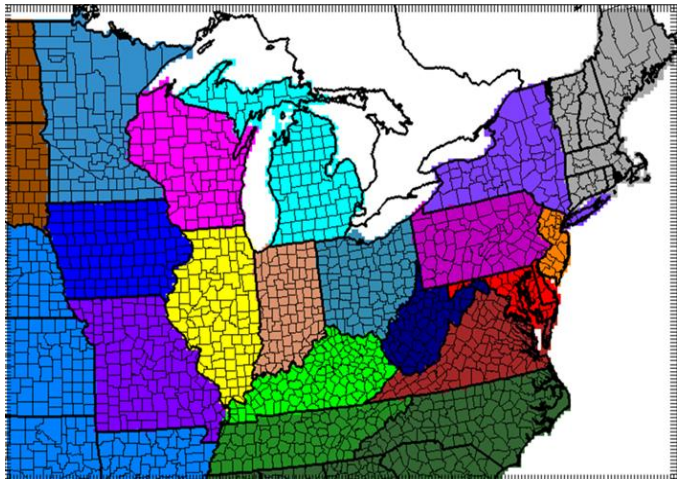

ALPINE GEOPHYSICS
Chicago
Detroit
Pittsburgh
New York
Cleveland
Cincinnati
St. Louis
Baltimore
Biogenics & Wildfire
Motor Vehicle
Nonroad/MAR
Stationary Area
EGU Point
NonEGU Point
Canadian
Boundary Conditions
Initial Conditions
OSAT Modeling Analysis
Relative Contribution of Source Area/Source Category
to Selected Downwind Nonattainment Monitors

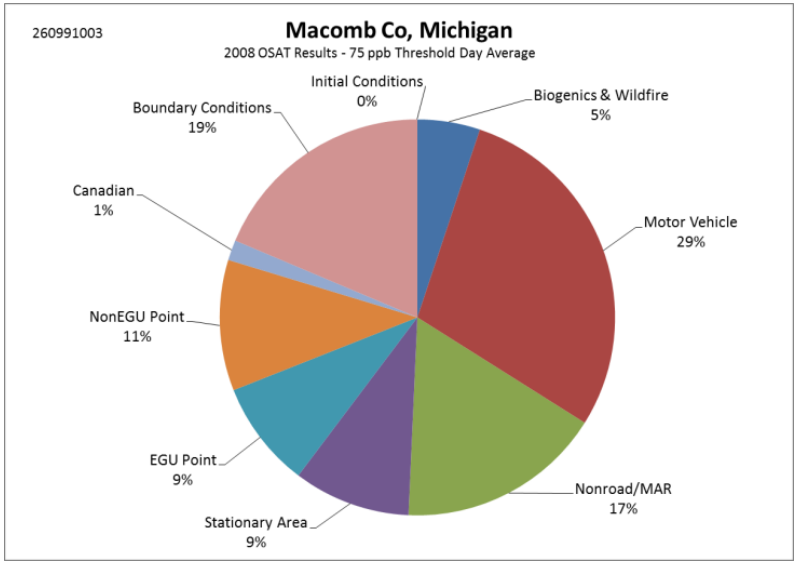
Alpine Geophysics, LLC recently completed an analysis designed to estimate the relative contributions of emissions from multiple source regions and ozone precursor source categories to resultant ozone concentrations at downwind receptors during a 2008 summer season episode.



Using a recently prepared 2008 modeling platform modeled with the Comprehensive Air Quality Model with Extensions (CAMx), the Anthropogenic Precursor Culpability Analysis (APCA) version of the Ozone Source Apportionment Technology (OSAT) apportioning schemes, Alpine calculated ozone concentrations for a domain covering most of the Upper Midwest and Northeastern United States. The culpability analysis was established for each grid cell that contained an ozone monitor with valid data for 2008.

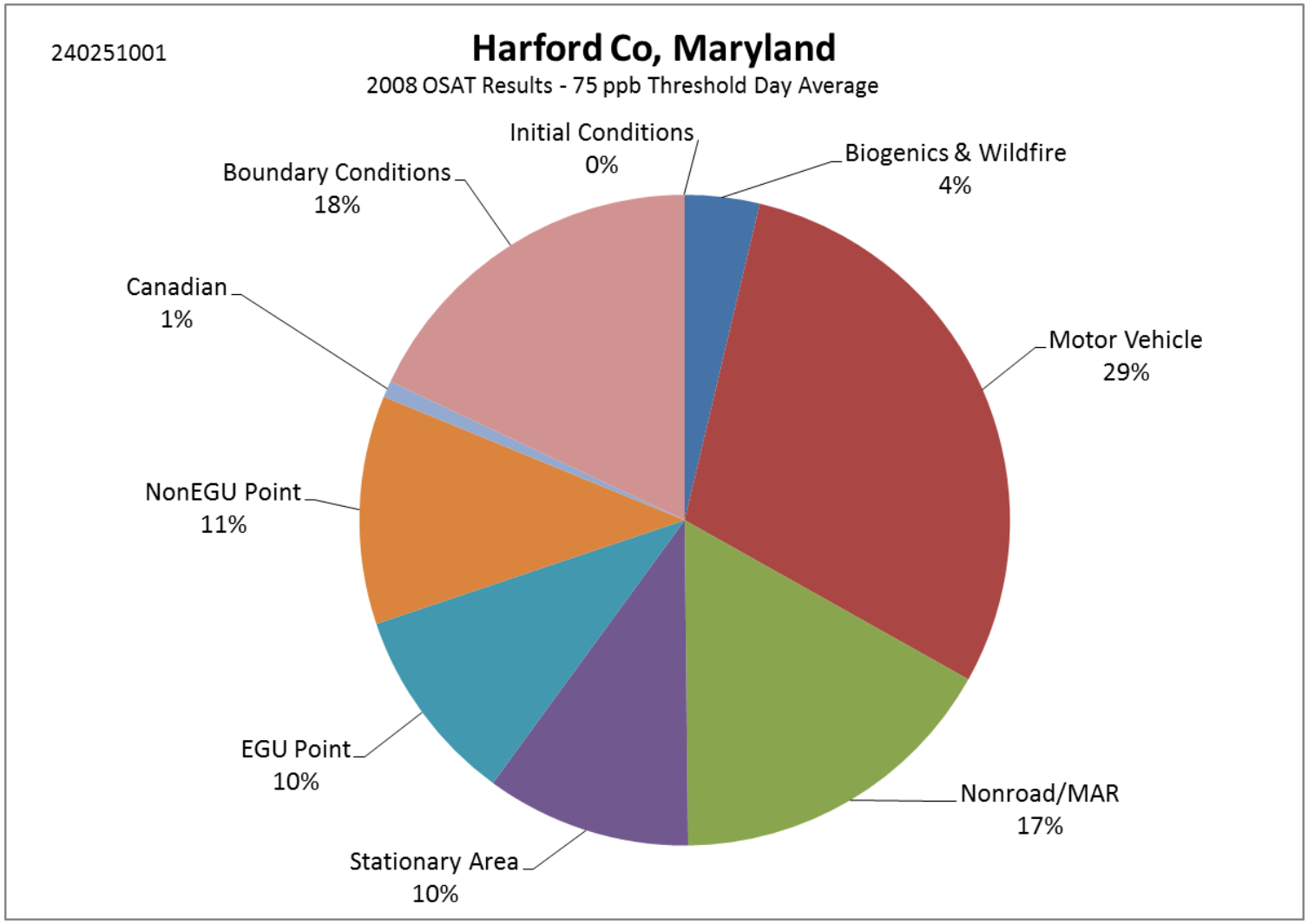
The emissions platform contained estimates derived from the Clean Air Market Divisions Continuous Emissions Monitoring (CEM) reporting system, EPA's Motor Vehicle Emission Simulator (MOVES) model for on-road emissions, and EPA's 2008 National Emissions Inventory, version 1.5.

OSAT/APCA was applied in CAMx to perform an 8-hour average calculation across the 2008 summer season and source-area and source-group contributions for all hours were extracted where the ozone levels were estimated to be over 75 ppb. Ozone contribution averages were summarized for all sources-regions and source-groups for hours over the threshold for each individual day and for the entire modeling period at each monitor location.

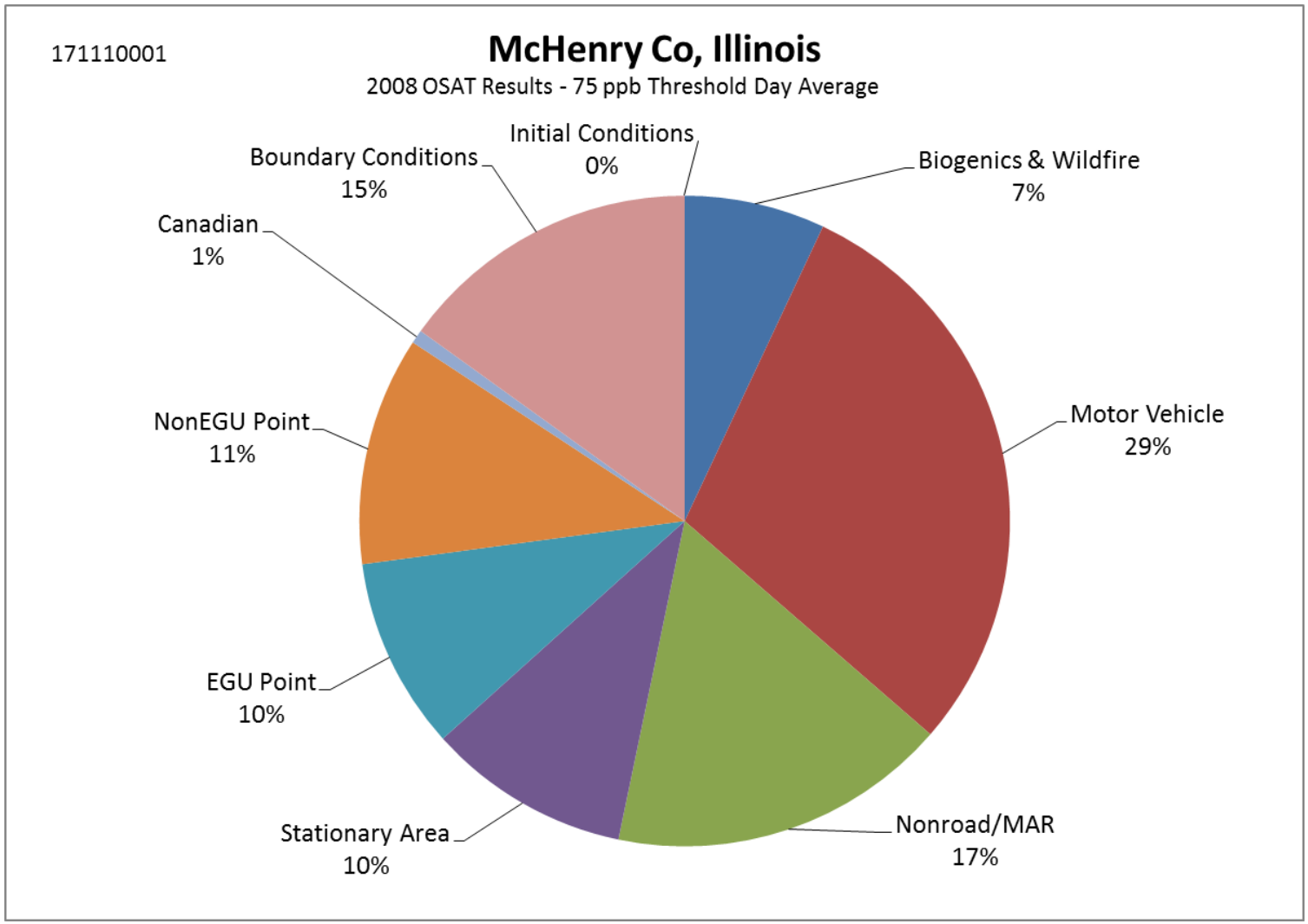


The results obtained for eight northeastern 8-hr ozone nonattainment areas are presented here with source category totals (pie charts) developed from the monitor simulated to have the highest ozone concentration in each nonattainment area. These graphics demonstrate the relative contribution of source category emissions on modeled ozone concentrations at each respective monitor during the episode.

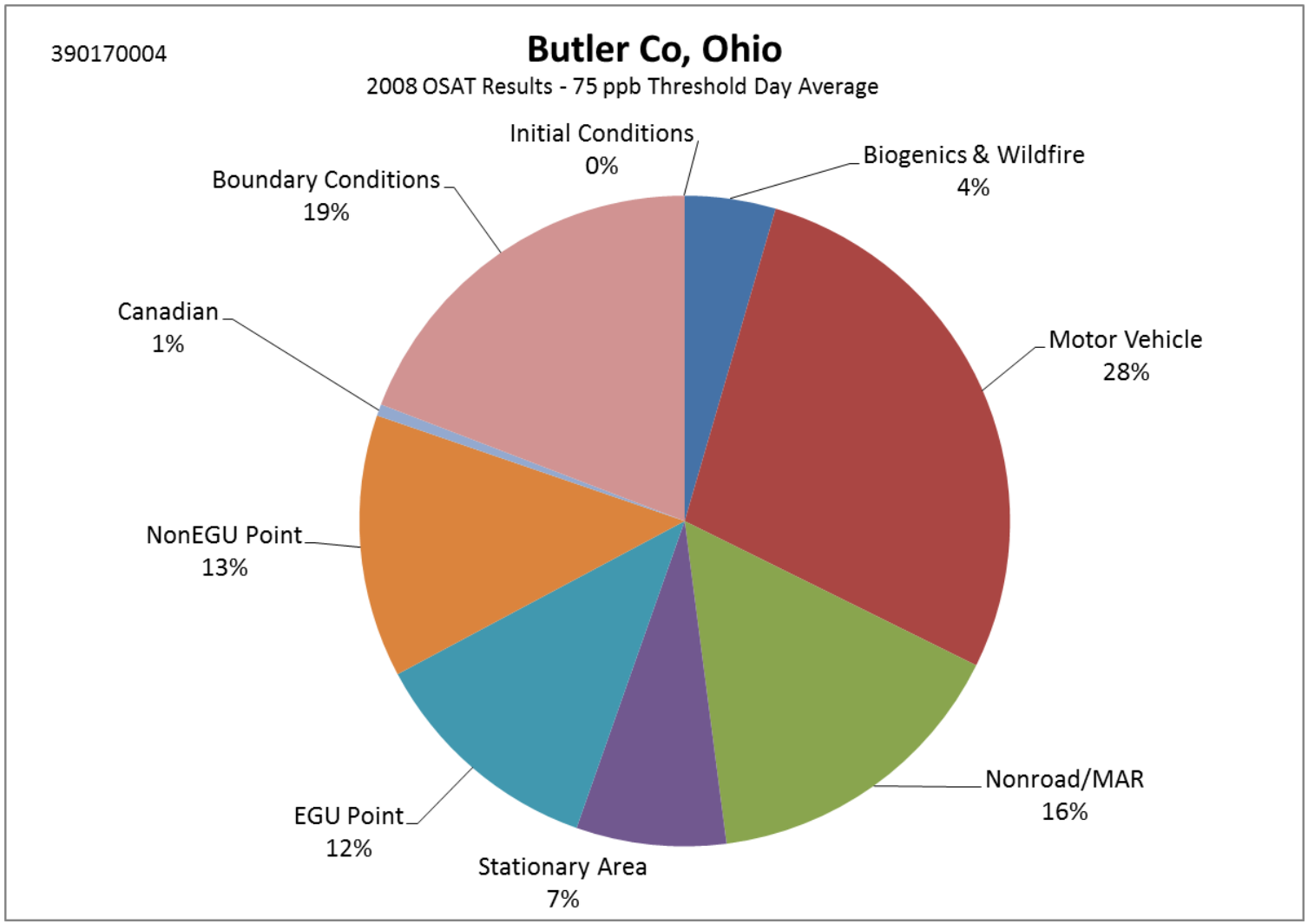
8-hr Ozone Nonattainment Area	Baltimore
Highest Modeled Monitor	240251001 Harford Co., MD



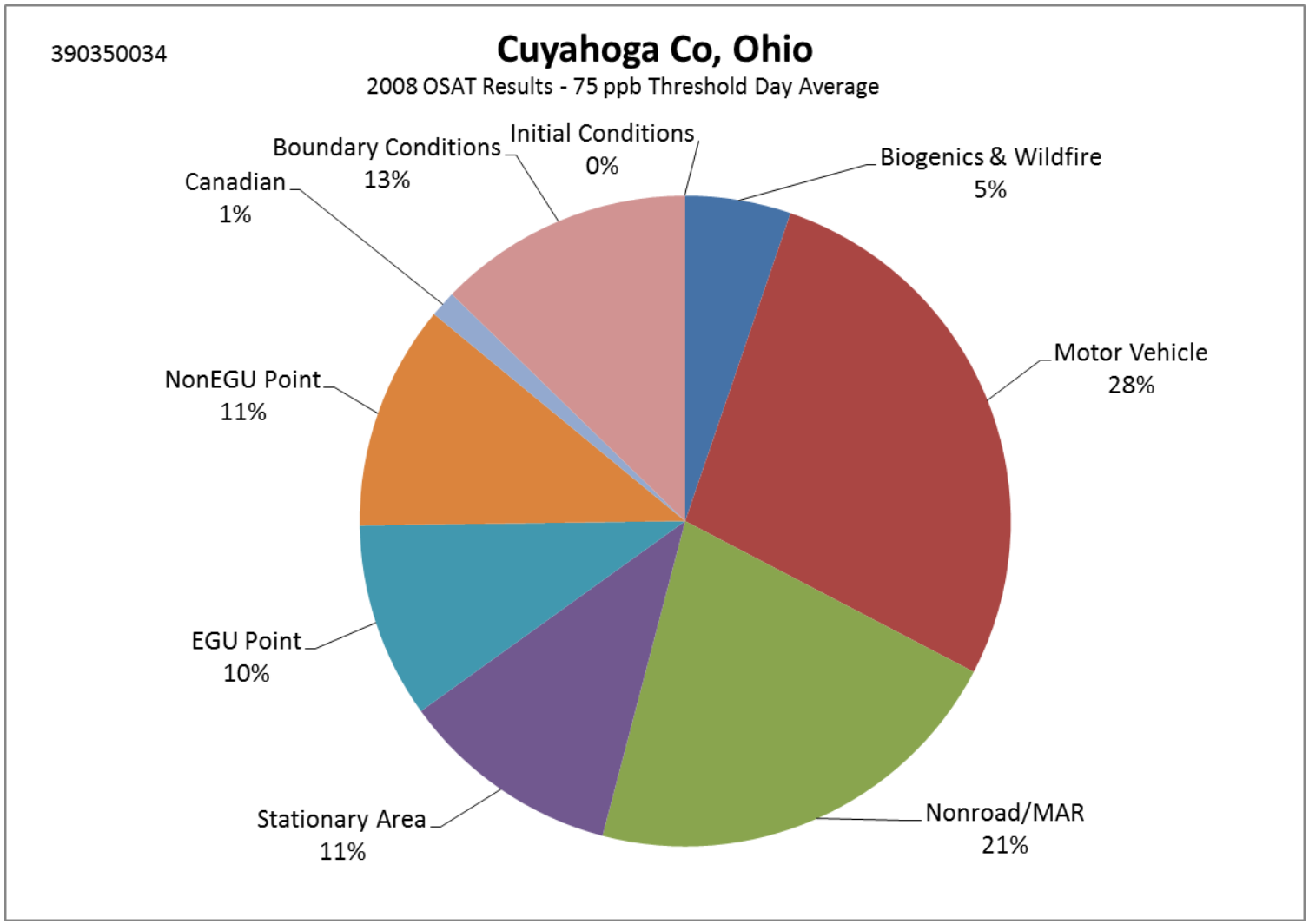
8-hr Ozone Nonattainment Area	Chicago-Gary-Lake Co.
Highest Modeled Monitor	171110001 McHenry Co., IL



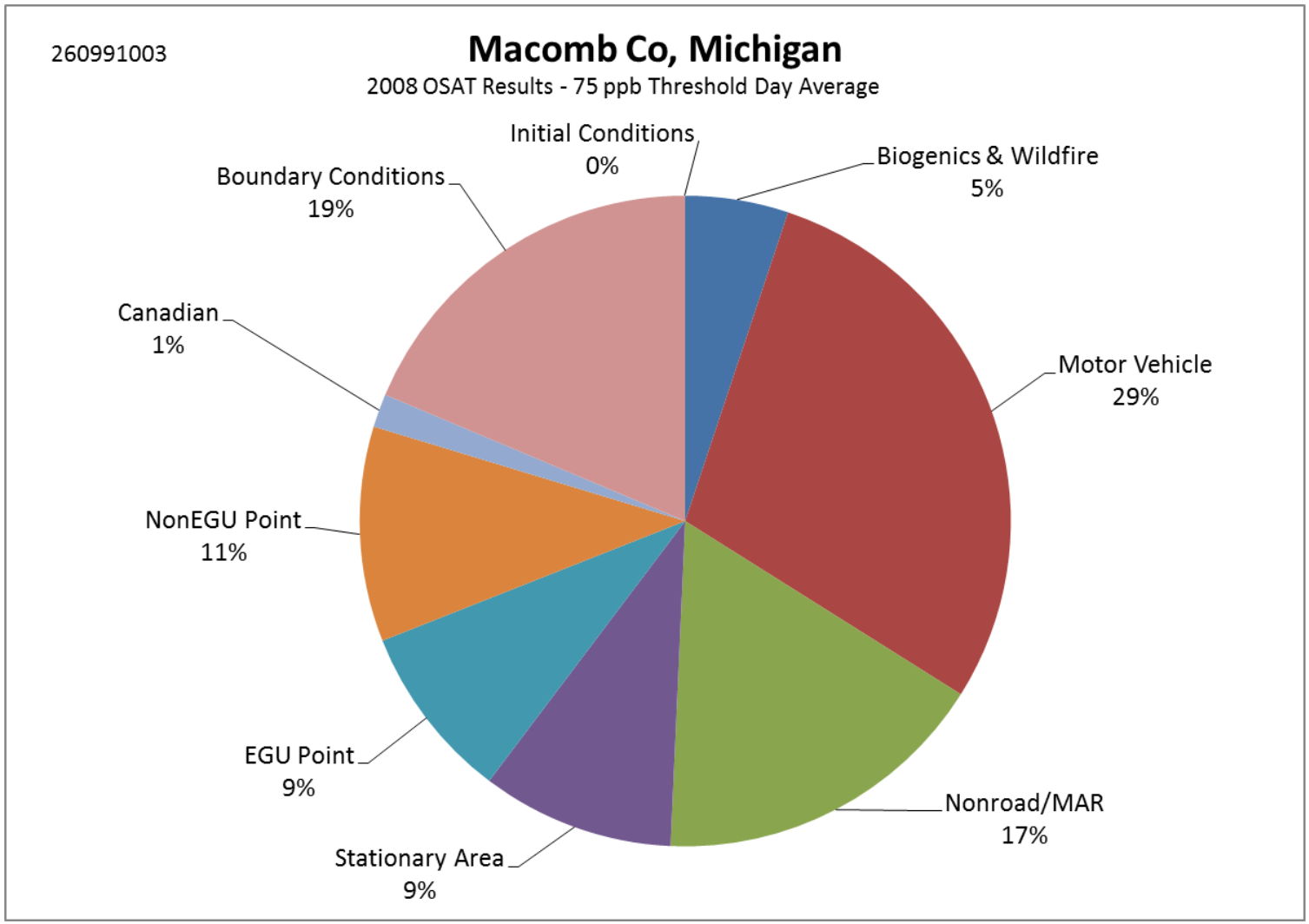
8-hr Ozone Nonattainment Area	Cincinnati-Hamilton
Highest Modeled Monitor	390170004 Butler Co., OH



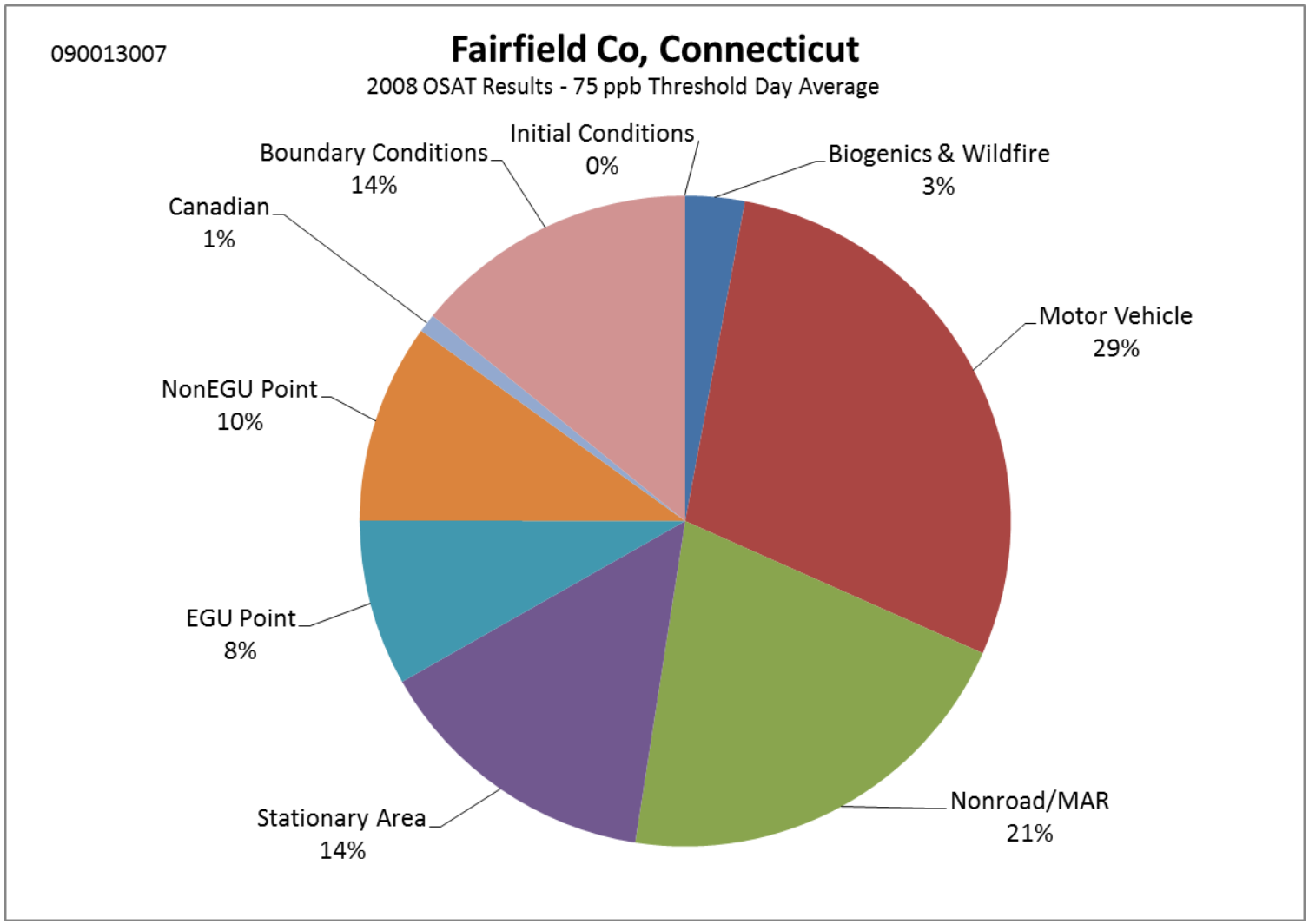
8-hr Ozone Nonattainment Area	Cleveland-Akron-Loraine
Highest Modeled Monitor	390350034 Cuyahoga Co., OH



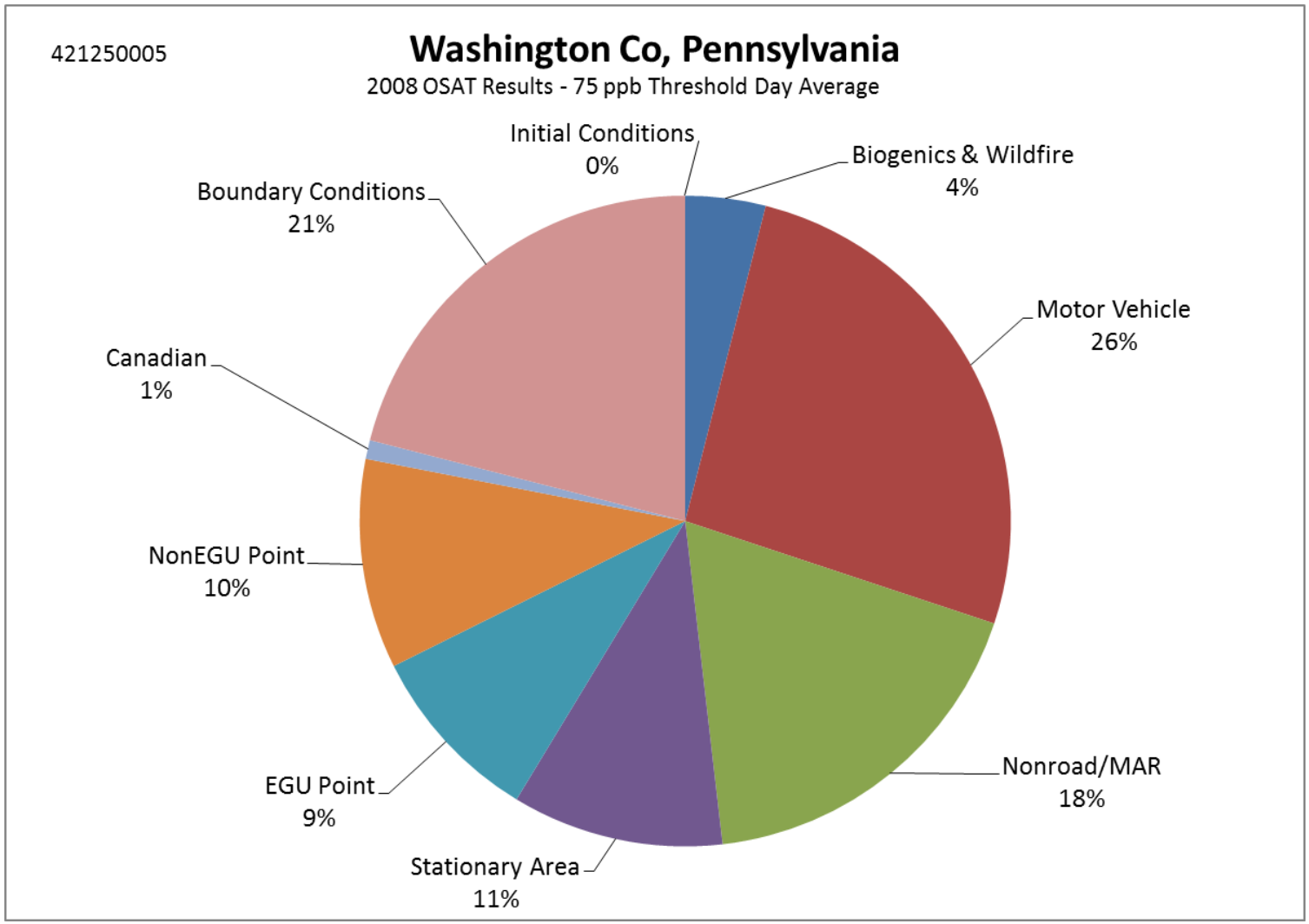
8-hr Ozone Nonattainment Area	Detroit-Ann Arbor
Highest Modeled Monitor	260991003 Macomb Co., MI



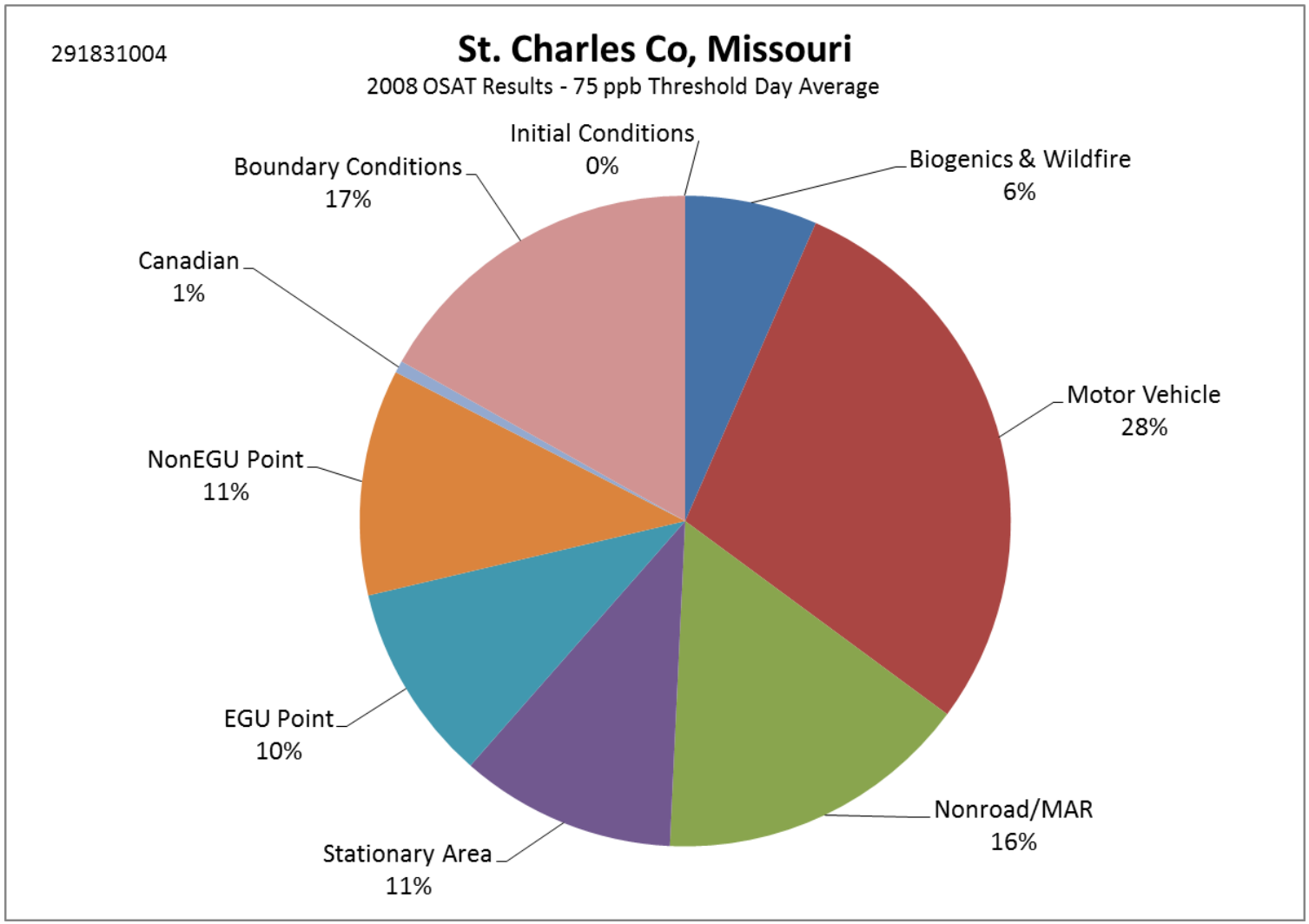
8-hr Ozone Nonattainment Area	New York-N New Jersey-Long Island
Highest Modeled Monitor	090013007 Fairfield Co., CT



8-hr Ozone Nonattainment Area	Pittsburgh-Beaver Valley
Highest Modeled Monitor	421250005 Washington Co., PA



8-hr Ozone Nonattainment Area	St. Louis
Highest Modeled Monitor	291831004 St. Charles Co., MO



This study was made available through funding and participation of the Midwest Ozone Group, the American Coalition for Clean Coal Energy, and We Energies.

Questions regarding this study, additional results and graphics for all simulated monitors in the receptor domain can be obtained by contacting Gregory Stella, Alpine Geophysics, via e-mail at gms@alpinegeophysics.com or by phone at 828-675-9045.