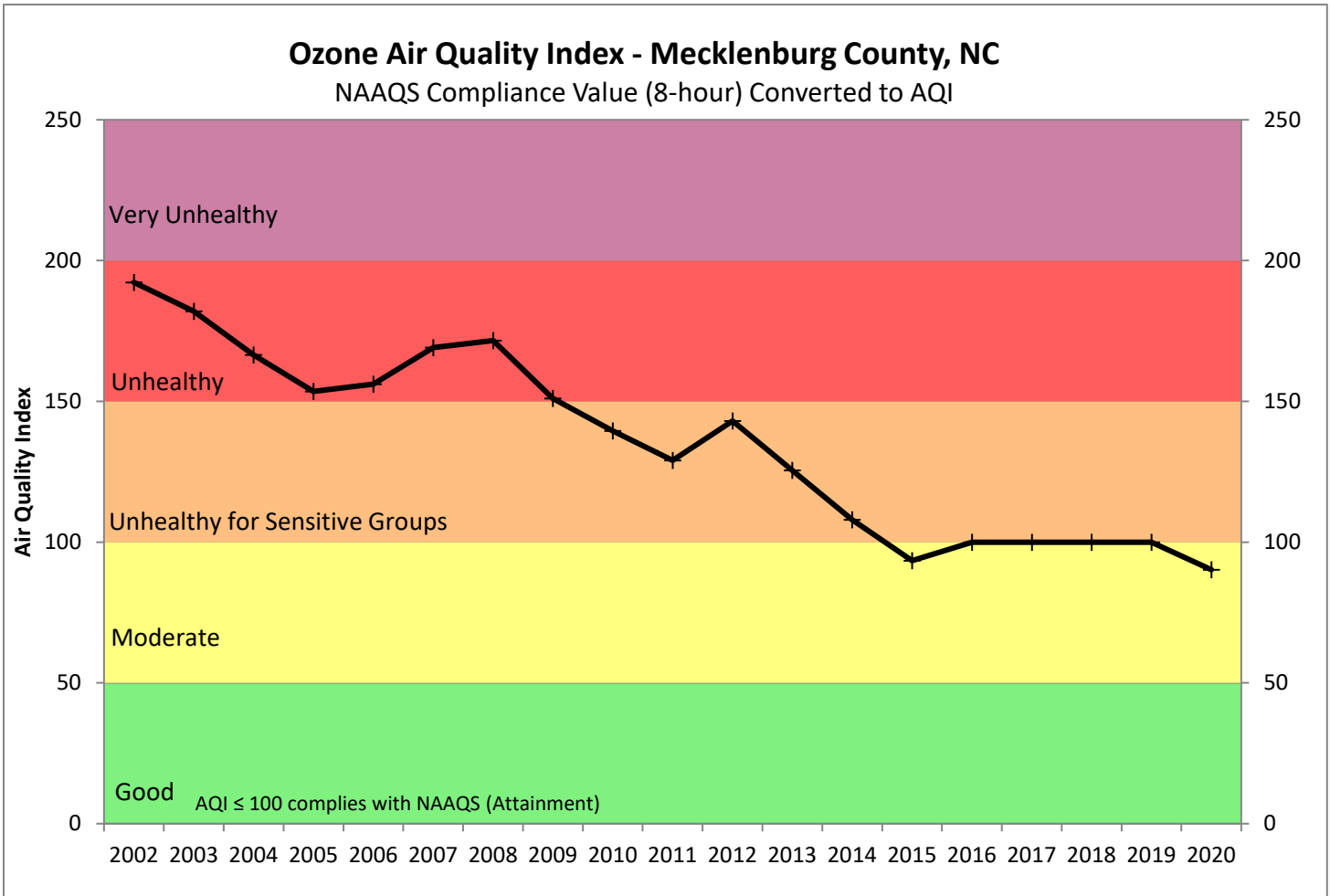




Mecklenburg County Ozone Concentrations are Improving

Ground-level ozone is the primary constituent of smog and is the criteria air pollutant of greatest concern in Mecklenburg County. Ozone is not emitted directly into the air. Instead, it is created by chemical reactions between oxides of nitrogen (NO_x) and volatile organic compounds (VOC) in the presence of sunlight. Under the Clean Air Act, the U.S. Environmental Protection Agency (EPA) has established National Ambient Air Quality Standards (NAAQS). NAAQS are a protective, health-based standard for ozone levels in the air we breathe. [Learn more about ground-level ozone.](#)



[Find out more about the color-coded Air Quality Index used in this graph.](#)

Downward trend in ozone concentrations

Ozone concentrations have decreased more than 30% over the past three decades.

The decrease observed in 2020 may be due in part to changing vehicle traffic patterns during the COVID-19 Pandemic and local Stay at Home Order. A 2020 ozone season analysis found that local ozone concentration was on average 7% lower than expected based on meteorological conditions. The number of “good” air quality days also increased in 2020 to a record 296 days.

Review of health-based ozone standard

In December 2020, the U.S. EPA issued the Agency’s [final rule retaining, without revision, the existing ozone national ambient air quality standard](#) (NAAQS). The standard, which was last reviewed in 2015, remains at 70 parts per billion (ppb).

The Clean Air Act requires EPA to review the current NAAQS every five years to ensure they protect public health with an adequate margin of safety. NAAQS revisions are based on technical input from a scientific advisory committee and the judgment of the EPA Administrator. Based on monitoring data, the EPA designates areas meeting the standard as “attainment” and areas not meeting the standard as “non-attainment.” A nonattainment area can be re-designated as a “maintenance” area once air quality monitoring data demonstrates compliance with the NAAQS. Mecklenburg County was designated “attainment” for the 70 ppb ozone standard in 2016 following the 2015 revision to the NAAQS.

Historically, the Charlotte region has not met the federal, health-based NAAQS for ground-level ozone. The table below details the region’s history of meeting each revised NAAQS for ground-level ozone. Ground-level ozone has consistently been the primary pollutant of concern for the region. It is crucial to continue work to reduce ground-level ozone concentrations in region. Local efforts, such as [Grants to Replace Aging Diesel Engines](#) and [Breathing Room](#) have contributed to overall improvements.

National Ambient Air Quality Standard (NAAQS) for Ground-level Ozone			Compliance History for Mecklenburg County, NC		
Year Promulgated	Concentration	Averaging Period	Non-attainment Designation Date	Compliance Date	Maintenance Designation Date
1978	120 ppb	1-hour	March 1978	1992	July 1995
1997	80 ppb	8-hour	June 2004	2012	December 2013
2008	75 ppb	8-hour	May 2012	2014	August 2015
2015 (2020 retained)	70 ppb	8-hour	Not Applicable	2016	Not Applicable