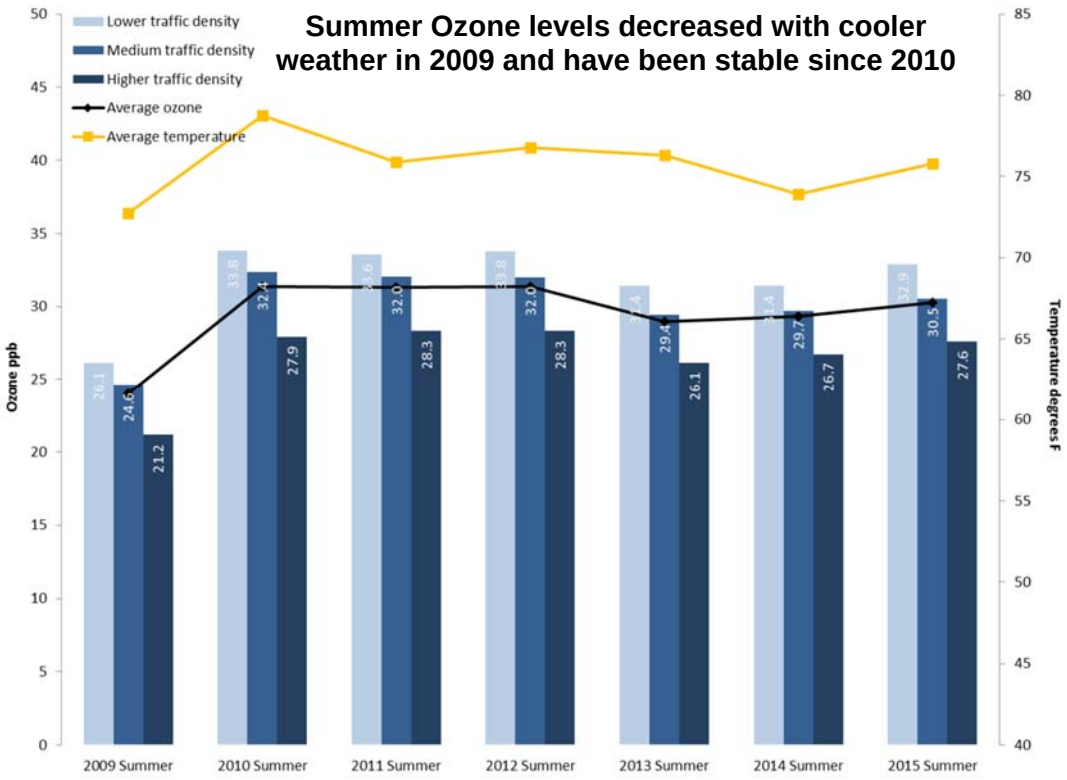
New York City Community Air Survey (NYCCAS) - Ozone (O_3) Trends, 2009 - 2015

Summary

- Year to year changes in average O_3 concentrations can be caused by differences in weather conditions.
    - O_3 is formed in the atmosphere through the reaction of other pollutants (oxides of nitrogen and volatile organic compounds) in the presence of sunlight. Warmer temperatures and increased daylight hours result in increased ozone production.
    - The increase on summer O_3 concentrations from 2009 to 2010 was likely due to increasing temperatures. O_3 concentrations have been stable from 2010 to 2015, with a slight decline from 2012 to 2013.
- In areas of high density of pollution sources, fresh emissions can react with O_3 and reduce concentrations. This is apparent in the spatial patterns on O_3, where areas of high traffic density tend to have lower O_3 concentrations. Higher levels are found in areas of less traffic density, downwind from high emissions locations.

Summertime average ozone levels, by year and traffic density



Traffic density is estimated within 1 km of sampling location. Each category includes one-third of sampling sites with a traffic density of low, 126-11844; medium, 11844-23155; and high, 23155-43257 vehicle-kilometers per hour. Data source: New York Metropolitan Transportation Council.