# Air Quality Dashboard Report (NO₂ Focus)

**Project Summary:** **This dashboard project investigates the temporal, spatial, and seasonal patterns of Nitrogen Dioxide (NO₂) concentrations across New York City using a publicly available air quality dataset. The dashboard was built in Excel and presents key insights through interactive pivot tables, slicers, maps, and charts.**

**Key Insights and Results:**

1. **NO₂ Trends Over Time:**
   * **NO₂ concentrations fluctuate year-to-year with observable peaks during colder months.**
   * **Line charts highlighted seasonal spikes, especially during Winter and Fall.**
2. **Spatial Distribution Across NYC:**
   * **High NO₂ levels were found in boroughs like Manhattan and The Bronx.**
   * **Area maps and charts visualize this geographic disparity, pointing to potential urban and traffic-related sources.**
3. **Seasonal Variation:**
   * **Seasonal analysis revealed that Winter and Fall experience higher average NO₂ values.**
   * **A custom formula classified each record into its respective season based on the date.**
4. **High-Risk Locations:**
   * **Using average pollutant levels, a pie chart was created to identify the top 7 most polluted locations.**
   * **Locations such as Long Island City, Bronx, and Manhattan emerged as high-risk areas.**
   * **A combo chart compared Mean vs. Max values for NO₂.**
   * **Results showed significant variation in readings, highlighting the importance of analyzing both metrics for reliable conclusions.**

**Tools & Techniques Used:**

* Excel Pivot Tables & Pivot Charts
* Slicers (Geo Place Name, Time Period, Measure)
* Line, Pie, Column, and Combo Charts
* Custom formulas for seasonal categorization

**Conclusion:**  
The dashboard provides a comprehensive, visual analysis of NO₂ pollution trends in New York City. The insights can guide environmental health assessments and inform future air quality policies or interventions.