LADCO | LAKE MICHIGAN AIR DIRECTORS CONSORTIUM

CART Analysis Slides from 2024 Business Meeting

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September 25, 2024

Meteorological Adjustment of Ozone via CART

- Classification and Regression Tree (CART) analysis is a statistical tool to classify data
- Used to determine meteorological conditions on high-ozone days
- Examine trends in ozone on meteorologically similar days
  - Allows examination of trends in ozone as a result of non-meteorological factors, such as emissions changes
- Applied CART to data from 2001-2023

- Will develop a report with the complete analysis
  - For details about LADCO's general approach, see LADCO's 2021 CART analysis report: https://www.ladco.org/wp-content/uploads/Projects/Ozone/LADCO_O3_CART-Analysis_27Oct2021-FINAL-with-Appendices.pdf

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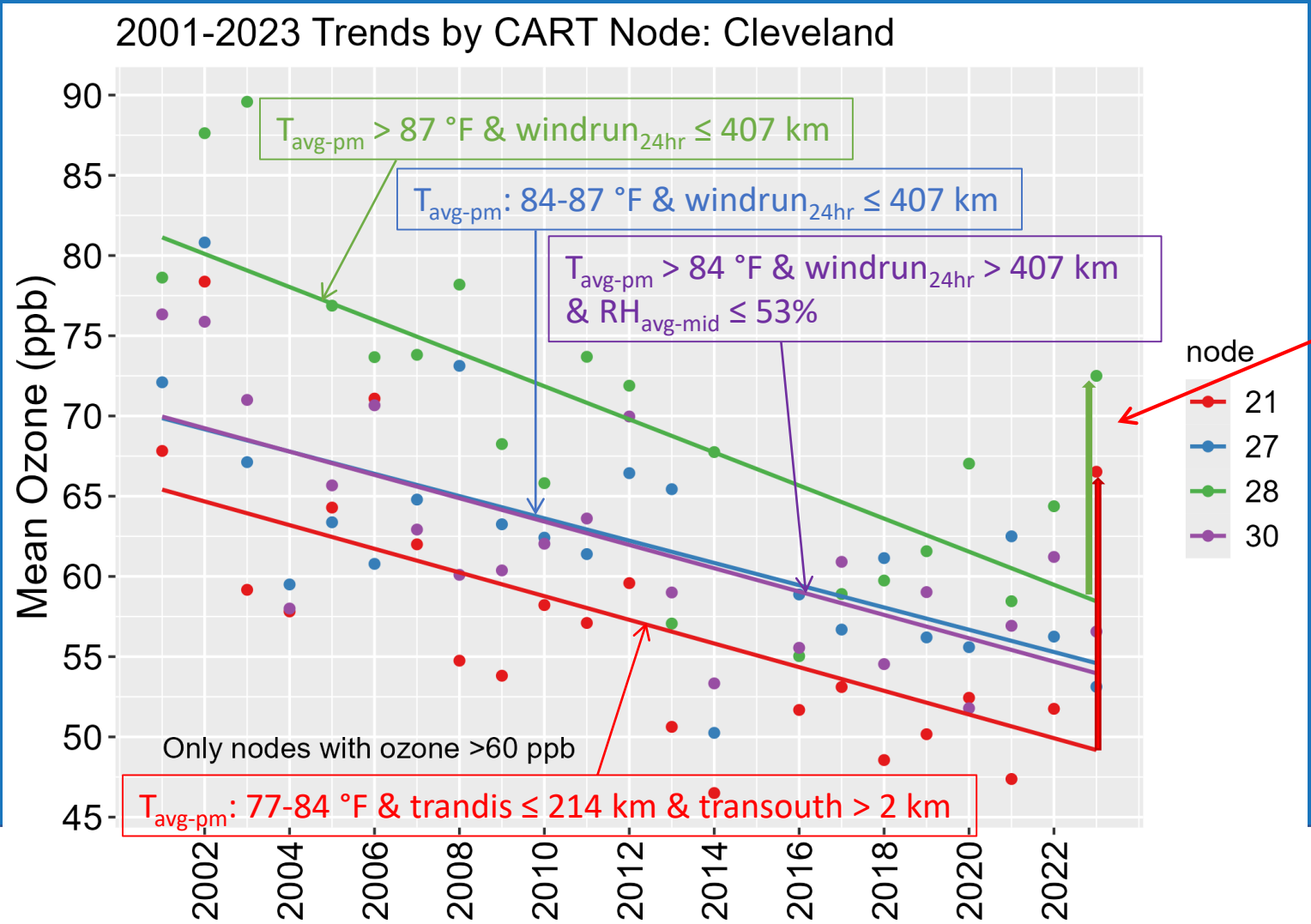
CART – Cleveland



Almost all areas: continued reductions in O_3 on O_3-conducive days

Most high-O_3 nodes show a spike in 2023

- Presumably due to smoke enhancement

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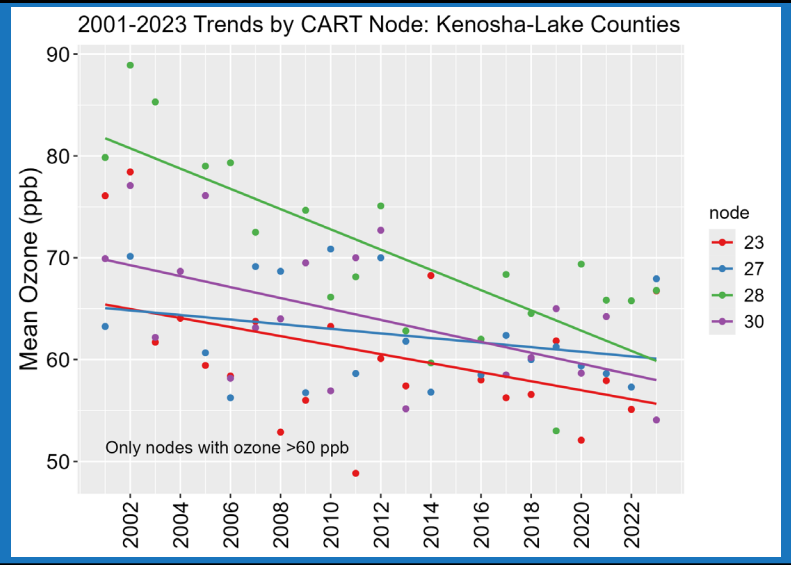
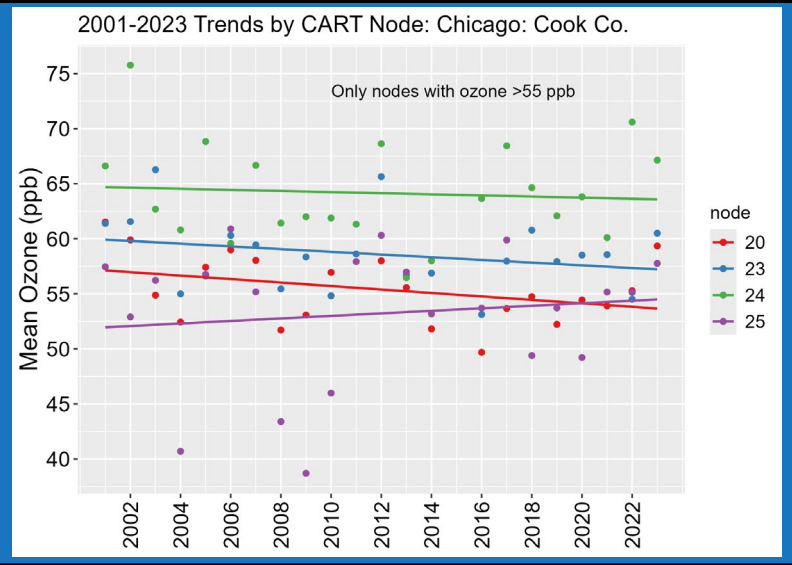
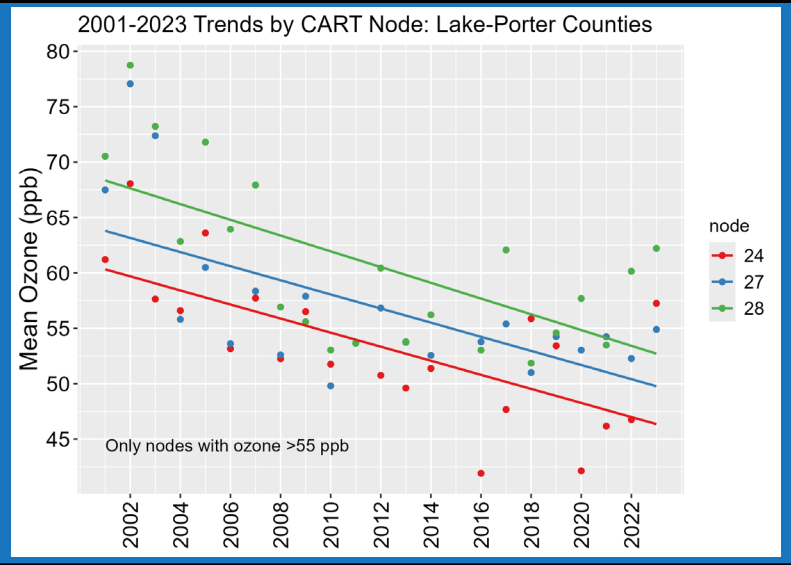
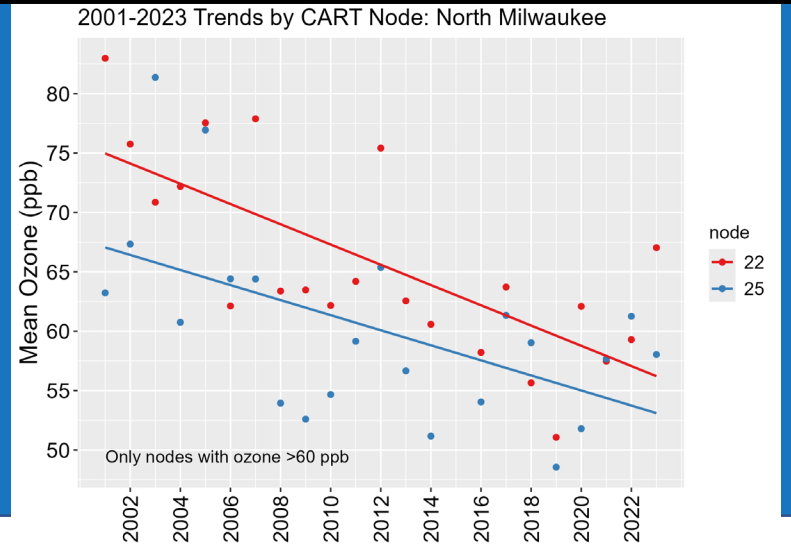
CART – Urban Nonattainment Areas

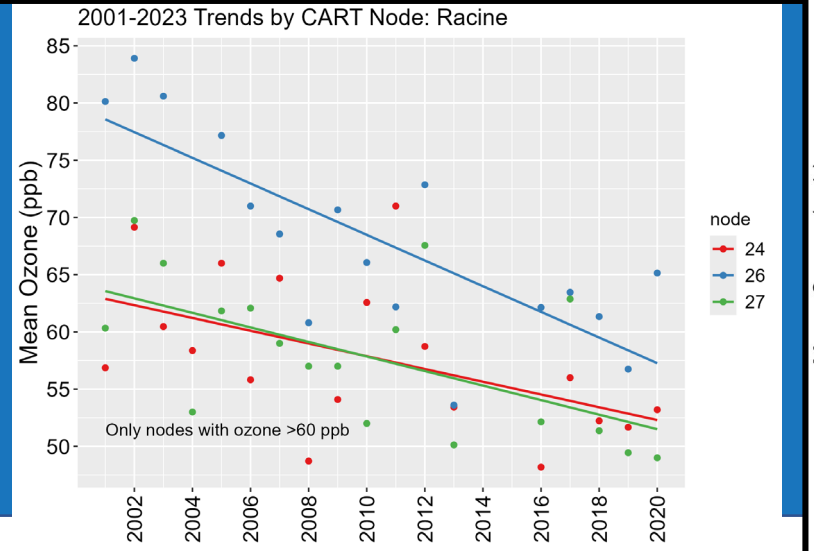


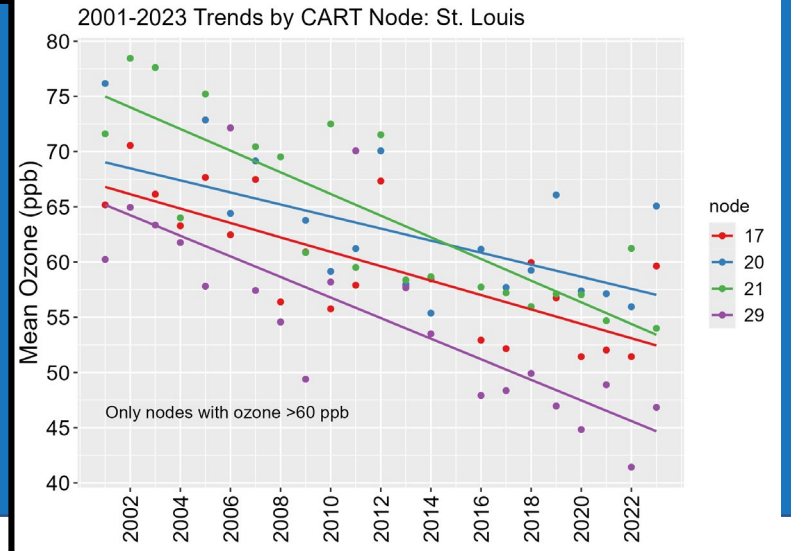




CHICAGO







MILWAUKEE

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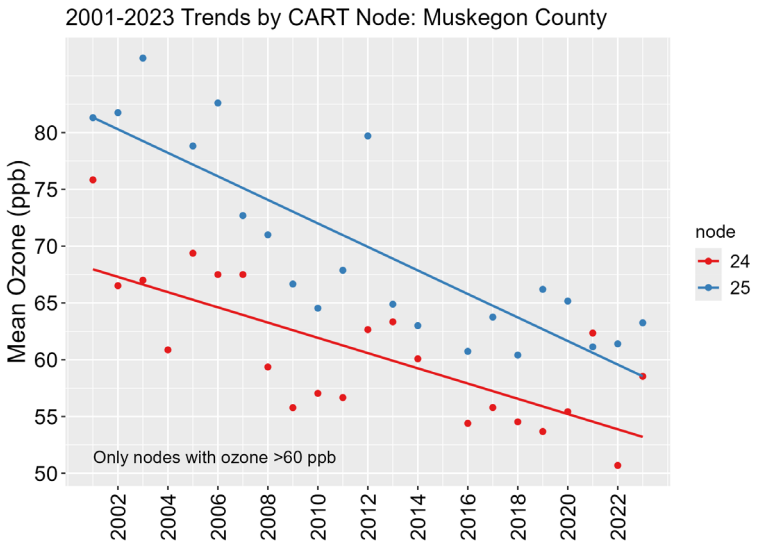
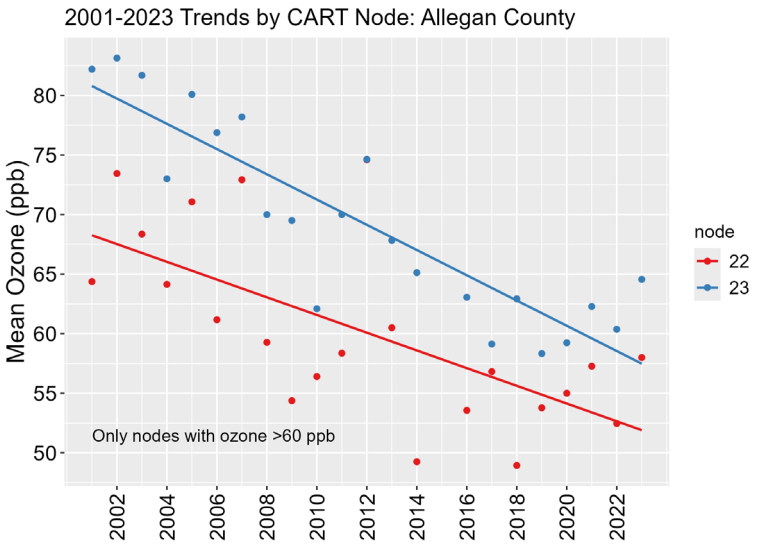
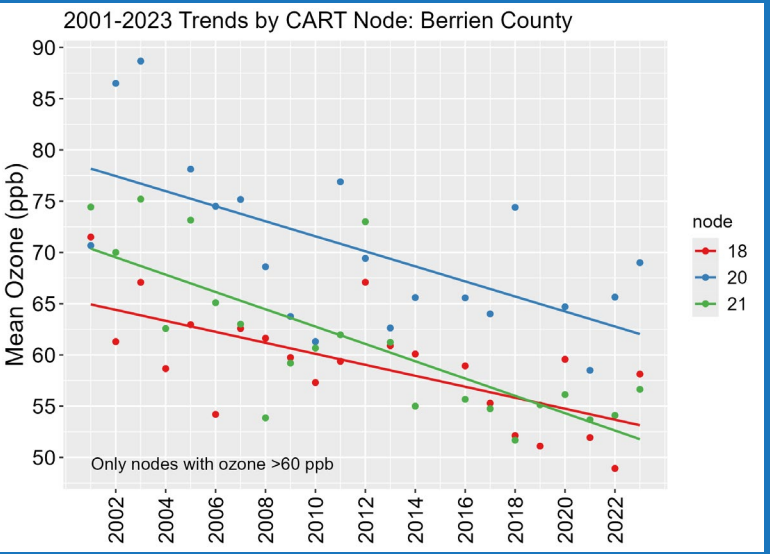
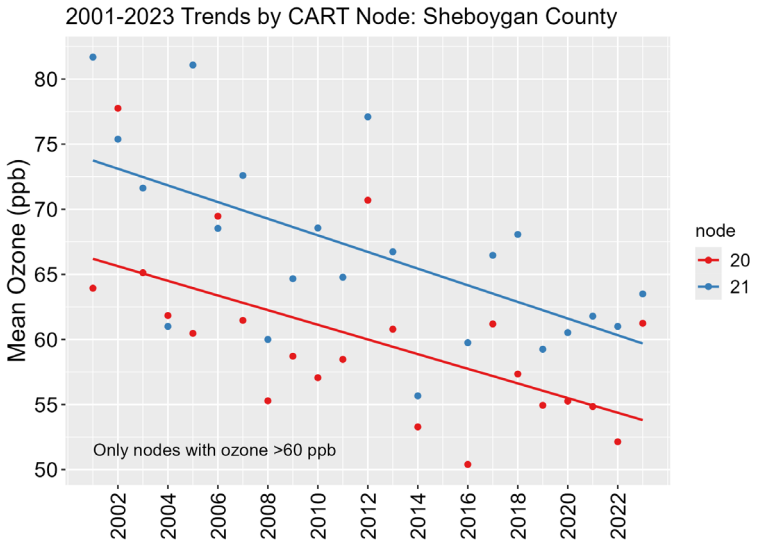
CART – Rural Lake MI Nonattainment Areas









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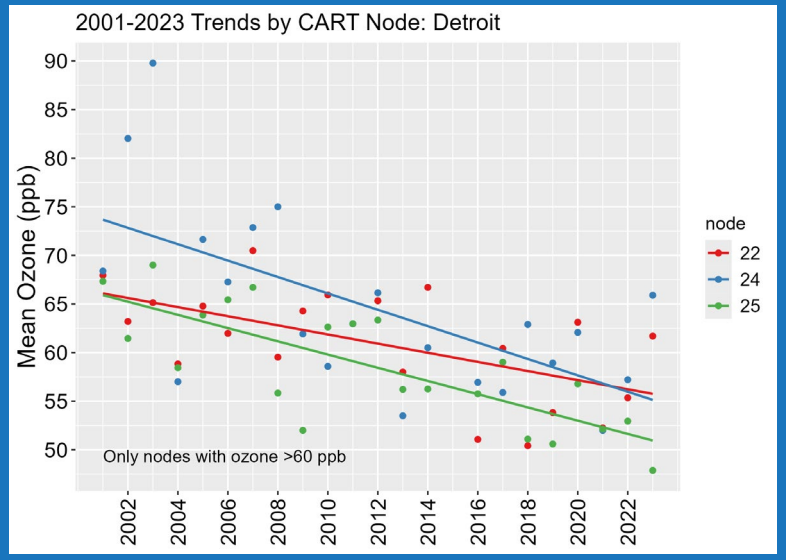
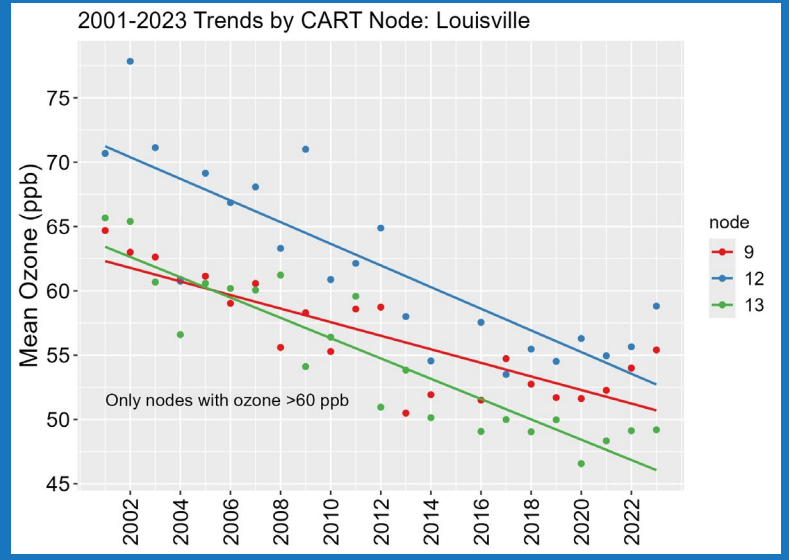
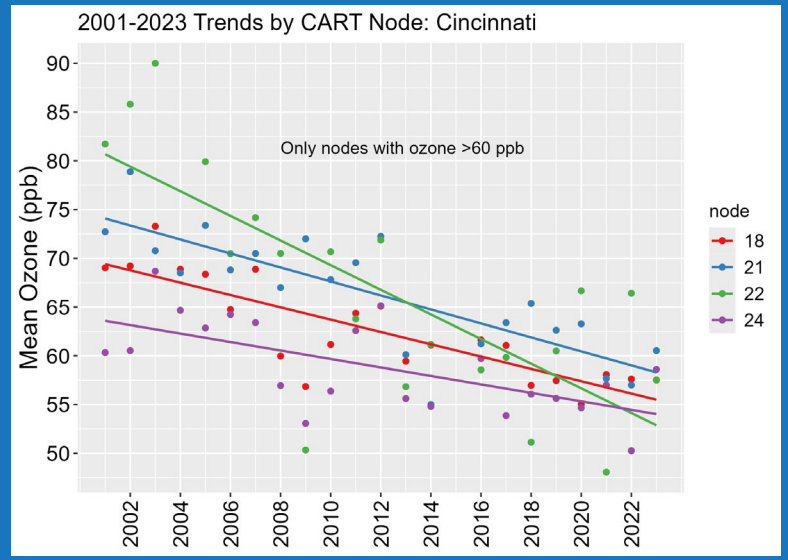
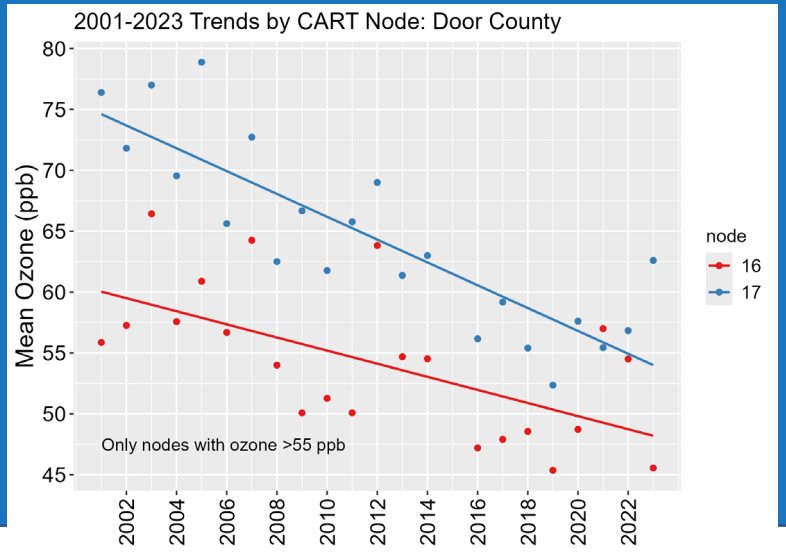
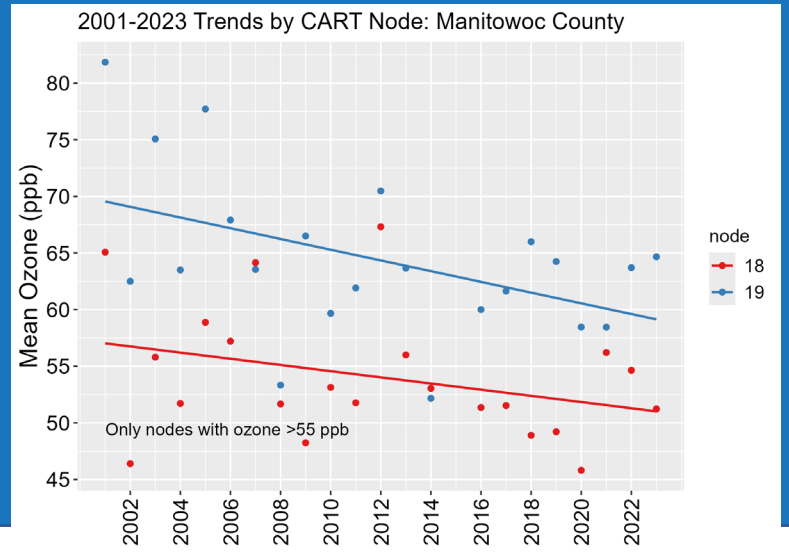
CART Trends: Maintenance areas (& Milwaukee downtown)

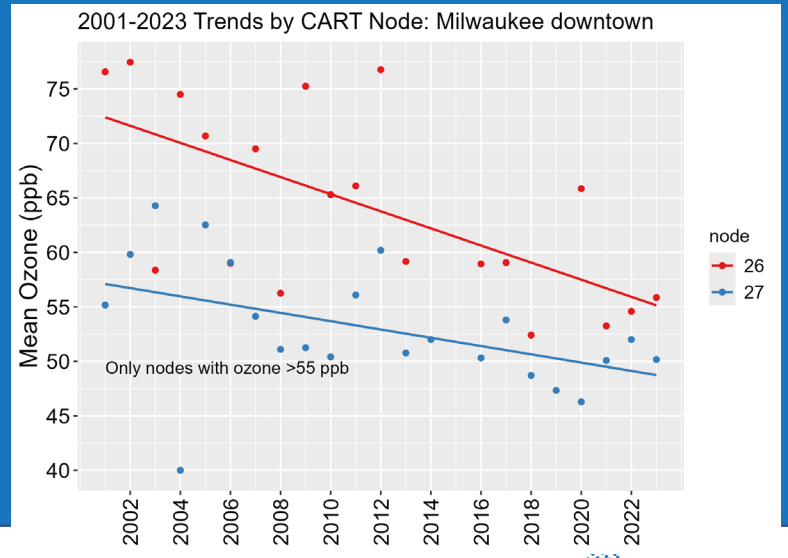












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