

# Wisconsin Department of Natural Resources Air Monitoring

## Near Road Network Plan 2013

<http://dnr.wi.gov/topic/AirQuality/documents/2013NearRoadNetworkPlan.pdf>

# National Ambient Air Quality Standard for Nitrogen Dioxide

- Federal Register Vol. 75(#6) issued 2/9/2010
  - NAAQS for Nitrogen Dioxide was revised to include a 1-hour standard by establishing a new short-term standard based on the 3-year average of the 98th percentile of the yearly distribution of 1-hour daily maximum concentrations.
  - Level has been set at 100 ppb to protect against peak 1-hour exposures.
  - Retain the annual standard of 53 ppb.
- In the announcement, EPA recognizes roadway-associated exposures account for a majority of ambient exposures to peak NO<sub>2</sub> concentrations.

# Near Road Monitoring Requirements

- In February 2010, the U.S. Environmental Protection Agency (EPA) finalized new minimum monitoring requirements for the nitrogen dioxide (NO<sub>2</sub>) monitoring network in support of a 1-hour NO<sub>2</sub> National Ambient Air Quality Standard (NAAQS).
- State and local air monitoring agencies are required to install NO<sub>2</sub> monitoring stations within 50 meters of locations where peak hourly NO<sub>2</sub> concentrations are expected to occur within the near-road environment in large urban areas.
- Sites to be established by January 1, 2013

# Near Road Siting Requirements

- Criteria for determining where to locate near road sites are set in Section 4.3 of Appendix D to Part 58, CFR.
- The CFR specifies that there must be one microscale near road NO<sub>2</sub> monitoring station:
  - in each CBSA with a population of 500,000 or more.
  - additional near-road NO<sub>2</sub> monitoring station is required if the CBSA population is 2,500,000 or more,
  - or if any CBSA with a population of 500,000 or more and has more than one or more road segments with 250,000 or greater annual average daily traffic (AADT).
- Based on these criteria Wisconsin must establish one site in:
  - Milwaukee
  - Madison (contingent on future federal funding)

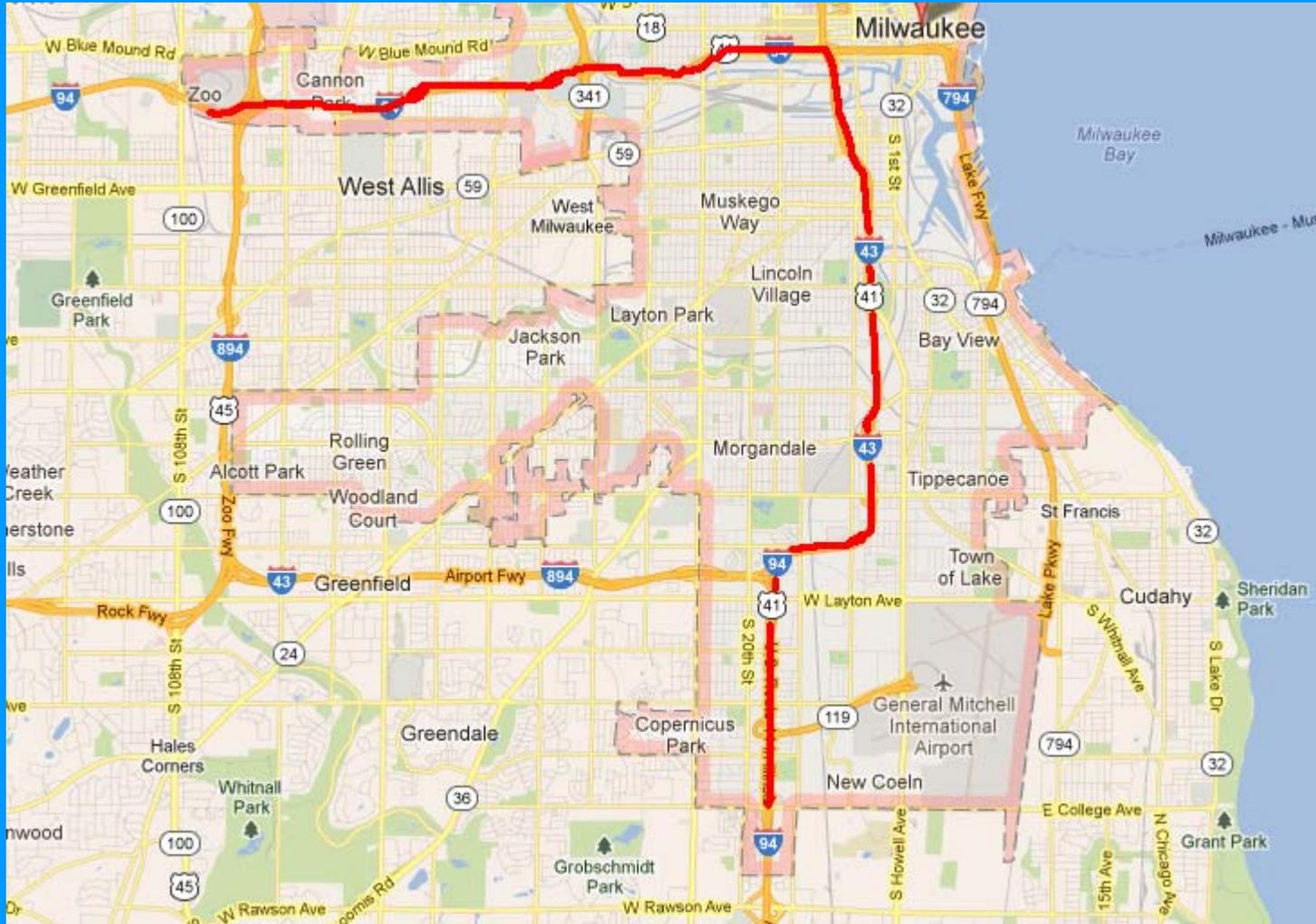
# Technical Approach for Near Road Site Selection

- Process of identifying target monitoring sites will follow federal guidelines outlined in Section 4.3.2, Appendix D, Part 58, CFR. State and local air agencies are required to consider the following in determining where to best locate new near-road NO<sub>2</sub> monitoring sites.
  - traffic volumes
  - fleet mix
  - roadway design
  - traffic congestion patterns
  - local terrain or topography,
  - and meteorology monitoring stations
- Wisconsin DNR will also consider the following in establishing a new site
  - basic monitor siting criteria
  - site logistics (e.g., access to property and site safety),
  - And nearby population exposure.

# Milwaukee Local Geographic Area

- The WDNR will evaluate areas along the I94\I894 traffic corridor in the Milwaukee Urban Area.
- While the I94\I894 corridor will be the primary focus we will also consider roadways feeding traffic into or taking traffic from the I94\I894 corridor.

# I94 Corridor between Hwy45 Interchange and the College Ave Interchange



# Approval of Site

- During the selection process WDNR will work with affected stake holders to insure general consensus that the site is properly located.
  - Internal Stakeholders, the Monitoring Section and the Regional Pollutant and Mobile Source Section.
  - External stakeholders including the Wisconsin Department of Health, City of Milwaukee, locally affected business groups and associations, as well as local community organizations.
  - WDOT will be a key stakeholder because the site will be situated within their right-of-way. WDOT approval will be required for the final site.
- Regional EPA will be regularly informed of progress and EPA staff will be involved in site selection process.

# Measured Parameters

- Required
  - Nitrogen Dioxide (NO<sub>2</sub>)
  - Carbon Monoxide (CO)
  - Wind speed and direction
- Optional Parameters (contingent on funding)
  - Black Carbon
  - Volatile Organic Compounds
  - Ultrafine particulate matter (<1 um)
  - Direct NO<sub>2</sub> measurement

# Status

- While current rule require monitoring to begin by January 2013, EPA has announced it will be seeking a rule change on the near road monitoring requirement.
  - Change to affect the timeline for implementation and is proposed to address concerns that timelines in the current rule can not be met.
  - Phase 1 \ Phase 2 (including Milwaukee) will be required to be on line by 01/01/2014
  - Second site for very large CBSA or very high AADT will be required to be on line by 01/01/2015
  - Smaller CBSA (including Madison) required to implement near road monitoring will be required to be on line by 01/01/2017

# Status

- May 14,2012 the Wisconsin DNR submitted a grant application for funding to implement near road monitoring and to establish the first site in Milwaukee.

# New Standard

- A 98 percentile standard would mean the 7<sup>th</sup> highest value would be the design value for the new standard.