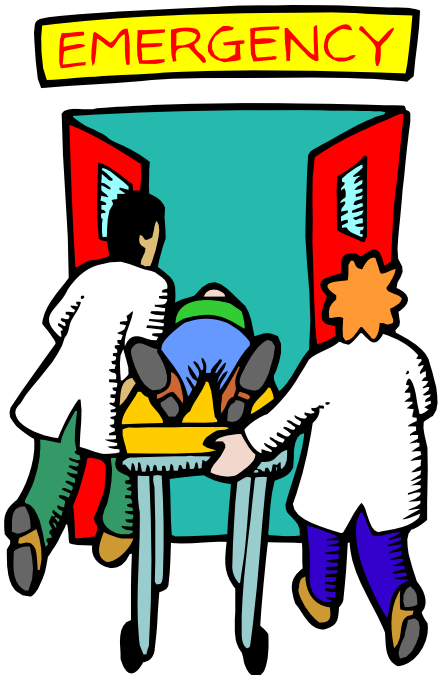
EPA's Proposed Changes to the NO_2 NAAQS
(signed June 26 2009)

What it means to CT.

Presented to SIPRAC July 9 2009

Health Effects of NO_2



1993 Review Provided Evidence for two major effects:

1. Acute: Respiratory responsiveness increases after short term exposure.

2. Chronic: Increase respiratory illness with long term exposure in children

2009 Review:

1. Re-enforced the 1993 findings

2. Recent findings have suggested that the acute effects occur at 24 hour average concentrations below the annual average standard (53ppb)

3. Epidemiology studies revealed a strong relationship between hospital visits and increase in NO_2 concentrations.
    - 2-20% Increase in emergency room visits/hospital visits/respiratory effects.

EPA's Proposed NO_2 NAAQS:

A. **New 1-Hour NAAQS**

- 3-Yr Rolling average of the 4th Daily High of Hourly Averages for each year.
- NAAQS b/t 80-100 ppb but taking comment on 65-150ppb
- Increase Monitoring to also include "near-roadway"
- Retain current Annual NAAQS (53 ppb)

B. **Proposed Alternative** ***(Asking for Comment on)***:

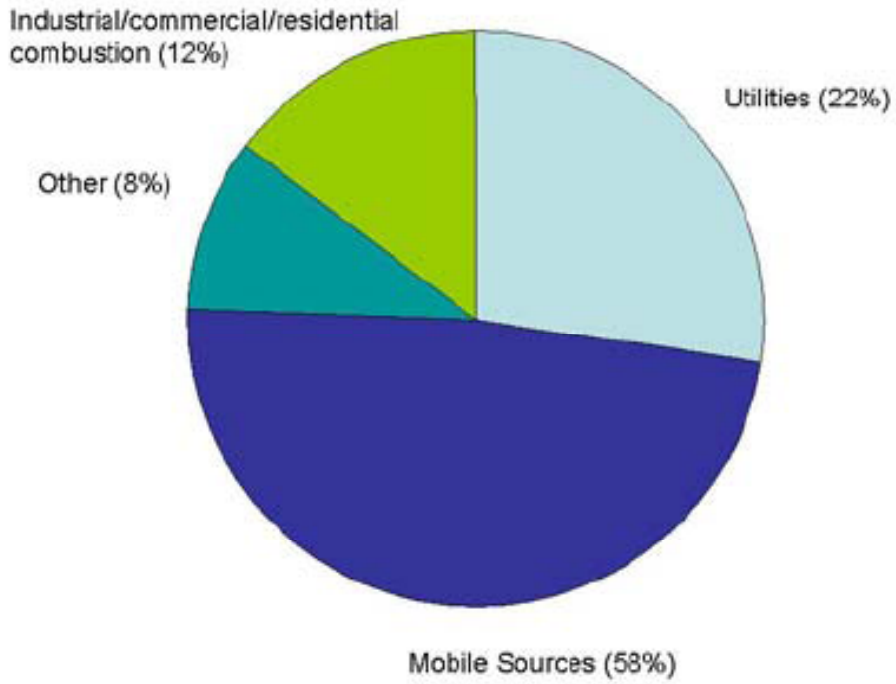
- Supplementing Annual Standard with a community wide 1-hour standard in the range of 50-75ppb.
- No "near-roadway required"

Other Recommendations:

1. **ALA**- hourly NO_2 average of no greater than 50ppb.
2. **CASAC-** Set hourly average no greater than 100ppb. Take into account the known concentration gradient of NO_2 with distance from roadways

Sources of NO_x Pollution

- Primary sources of NO_x include:
  - mobile sources,
  - electric utilities,
  - and other industrial, commercial, and residential sources that burn fuels

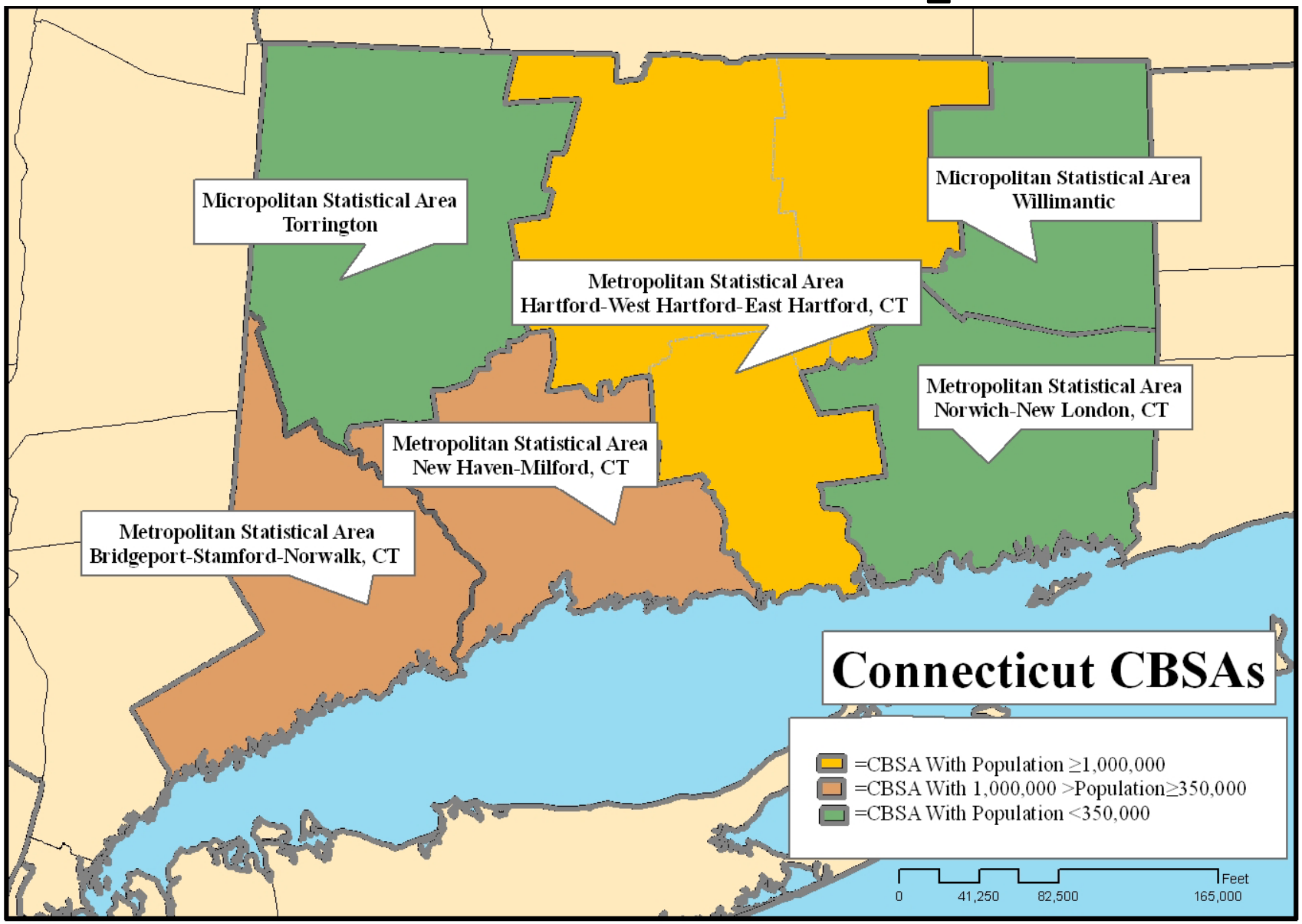


Monitoring Proposals:

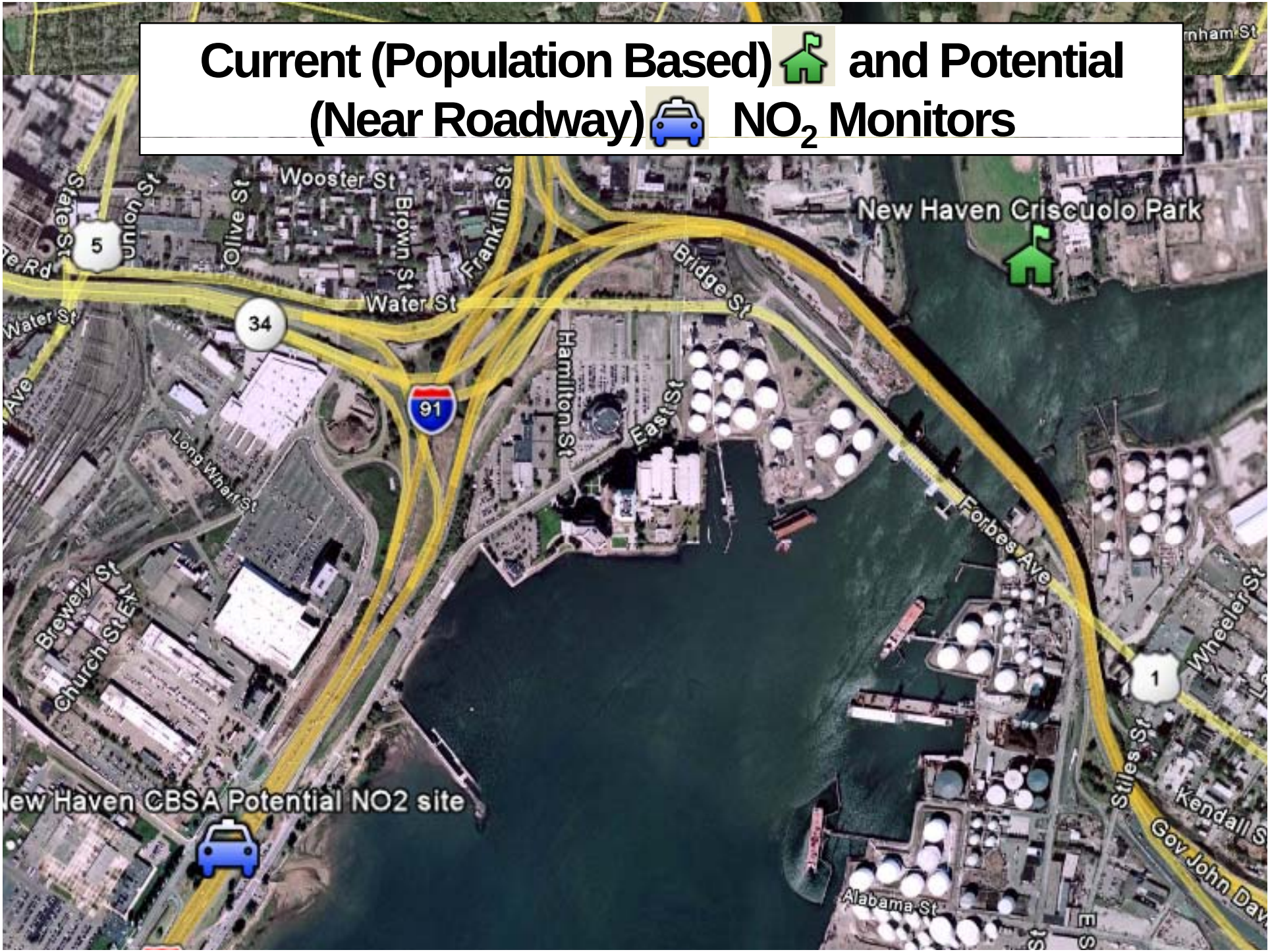
- Community exposure monitoring in Urban Areas > 1,000,000 population

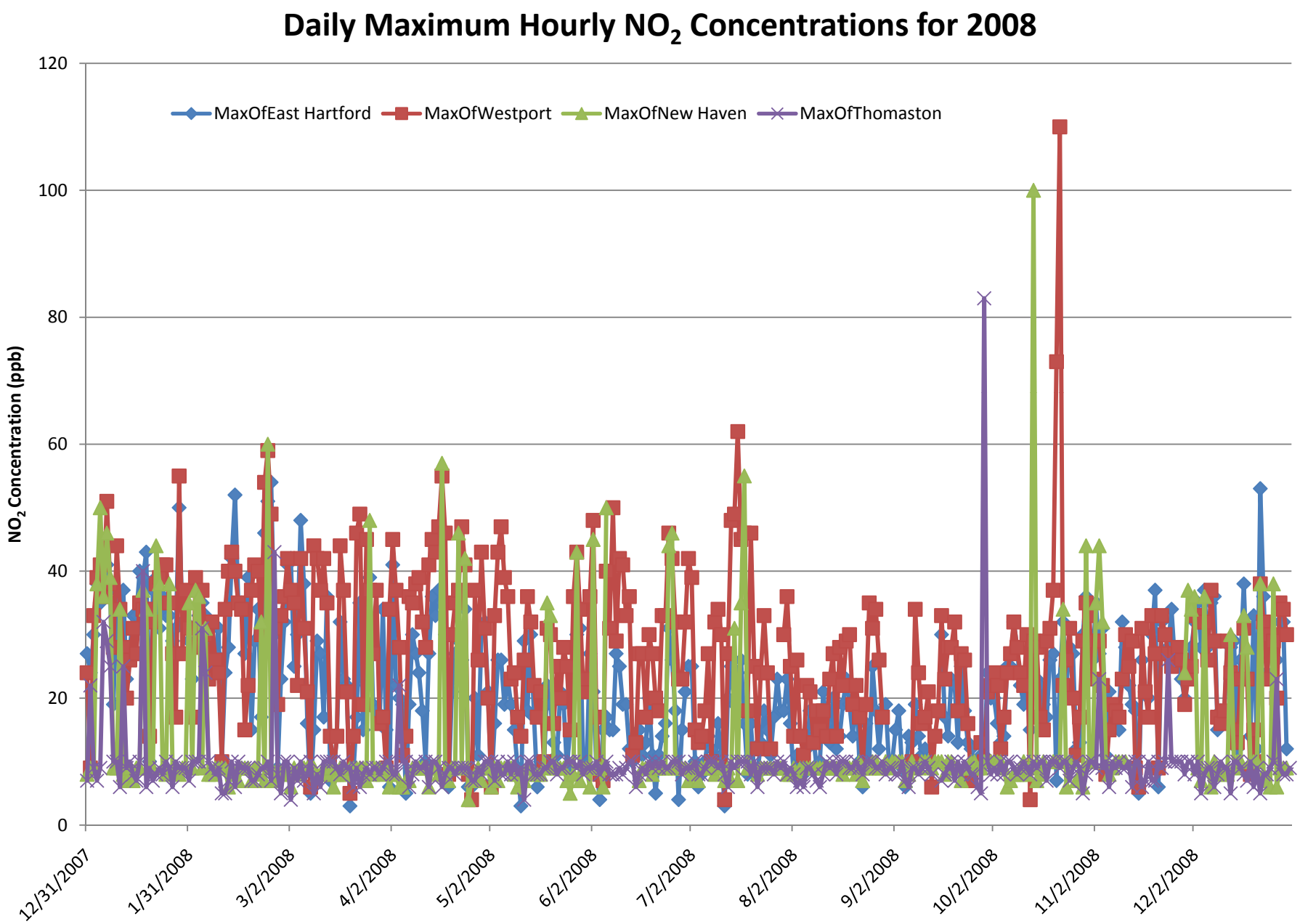
- Near roadway monitoring:
  - 1 in Urban Areas > 350,000 population
  - 2 near roadways with >250,000 ADT

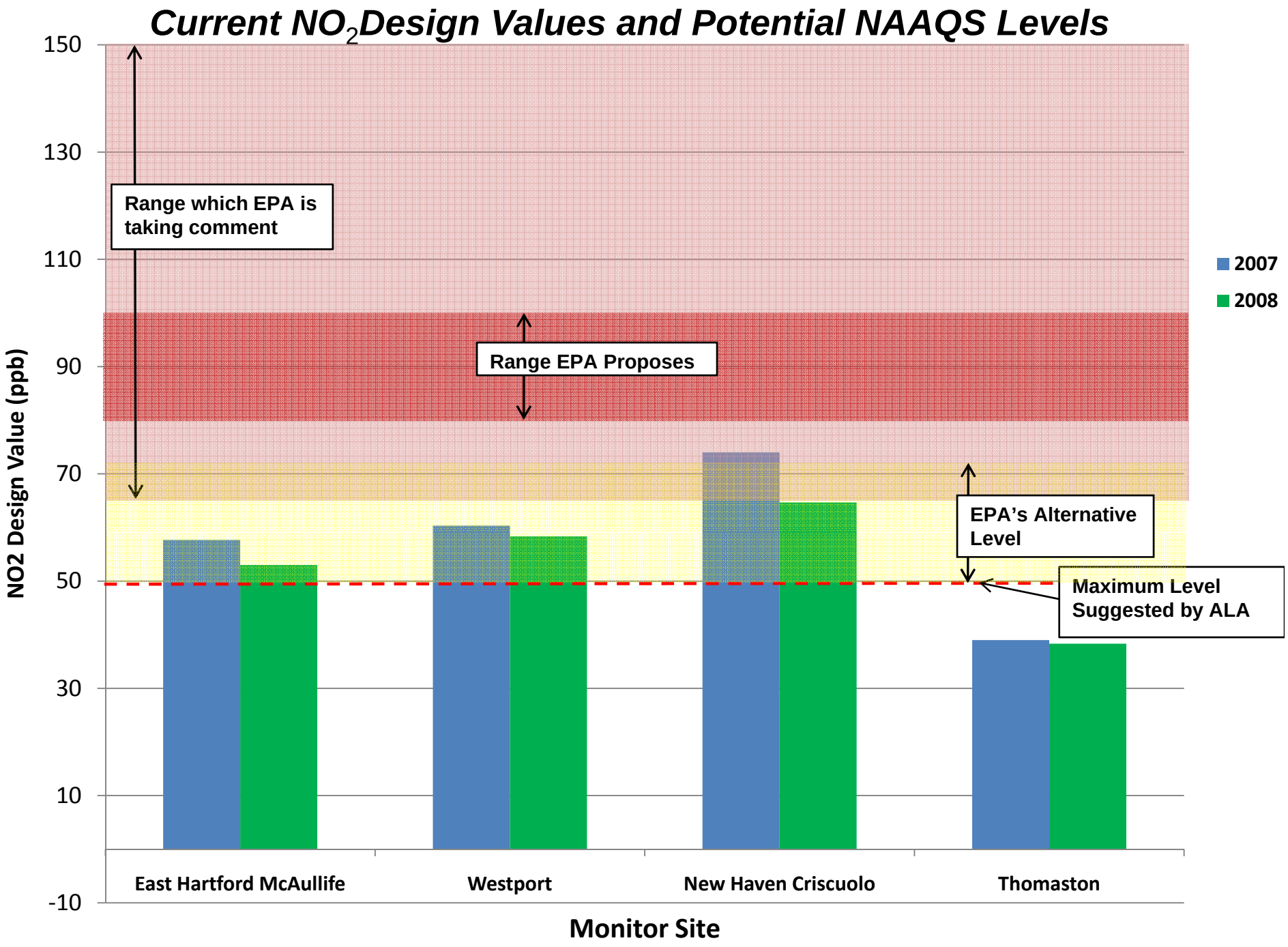
Potential Additional CT NO_2 Monitoring



Current (Population Based) and Potential (Near Roadway) NO_2 Monitors




Daily Maximum Hourly NO2 Concentrations for 2008
MaxOfEast Hartford
MaxOfWestport
MaxOfNew Haven
MaxOfThomaston
NO2 Concentration (ppb)
120
100
80
60
40
20
0
12/31/2007
1/31/2008
3/2/2008
4/2/2008
5/2/2008
6/2/2008
7/2/2008
8/2/2008
9/2/2008
10/2/2008
11/2/2008
12/2/2008


Current NO2 Design Values and Potential NAAQS Levels
150
130
110
90
70
50
30
10
-10
NO2 Design Value (ppb)
Range which EPA is taking comment
Range EPA Proposes
EPA's Alternative Level
Maximum Level Suggested by ALA
2007
2008
East Hartford McAullife
Westport
New Haven Criscuolo
Thomaston
Monitor Site

Estimated NO_2 NAAQS Implementation Schedule

July 2009 1. Published in Fed Reg (signed June 26, 2009)

August 2009 2. Comment Ends and 2 public Hearings to be held

January 2010 3. Final Promulgation of Revised NAAQS

January 2011 4. State Designation Recommendations to EPA

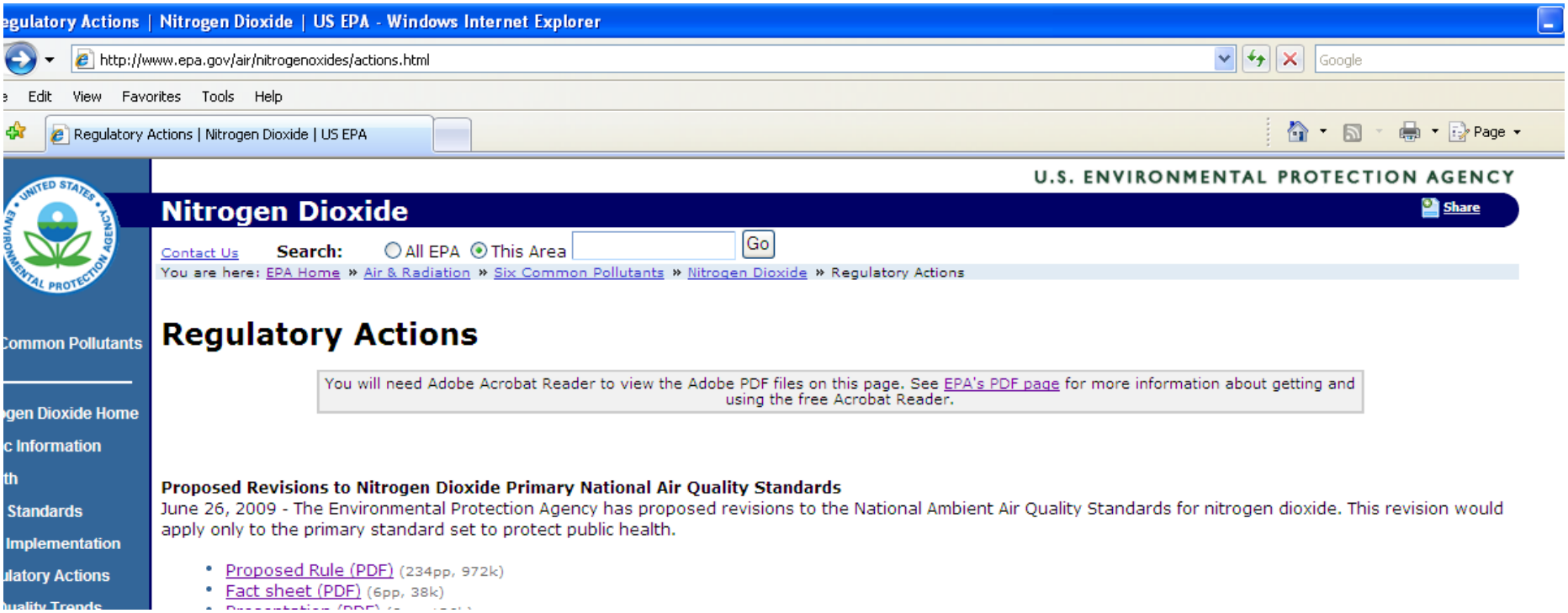
January 2012 5. Designations Finalized by EPA (all/most areas will be "Unclassifiable" due to lack of roadside monitors)

January 2013 6. New NO_2 Network Operational

January 2015 7.Next EPA NO_2 Review Complete

January 2017/18 8. Non-Attainment Re-designations (Using roadside monitoring data)

January 2022/23 **9. Required Attainment Date**

For More Information on EPA's NO_2 NAAQS Proposal

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