



# Comments on 2<sup>nd</sup> External Review Draft of Ozone “Policy Assessment” Document

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NERA Economic Consulting

Presentation to CASAC on behalf of UARG

March 26, 2014

# Key Recommendations



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## Expand the PAD to Include:

1. % emissions reductions to attain each alternative standard
2. Responsiveness of risk-relevant ozone exposures to emissions reductions
3. Discussion of:
  - Differential health impacts on people in urban versus suburban settings
  - How to make NAAQS decisions in the face of unresponsive risks and exceedingly high % emissions reduction needs

# The PAD Should Report EPA's Projected % Emissions Reductions Needed for Attainment of Each NAAQS



Table 2 in  
Appendix 4-D  
of HREA:

Urban Area	Years	Standard Level*			
		75 ppb	70 ppb	65 ppb	60 ppb
Atlanta	2006-2008	50%	58%	64%	71%
	2008-2010	23%	43%	54%	62%
Baltimore	2006-2008	46%	54%	61%	69%
	2008-2010	44%	52%	60%	67%
Boston	2006-2008	40%	49%	61%	70%
	2008-2010	13%	40%	53%	65%
Chicago	2006-2008	19%	52%	66%	80%
	2008-2010	N/A	27%	55%	70%
Cleveland	2006-2008	48%	61%	73%	88%
	2008-2010	50%	64%	77%	88%
Dallas	2006-2008	50%	57%	65%	72%
	2008-2010	50%	58%	64%	71%
Denver	2006-2008	51%	65%	78%	87%
	2008-2010	15%	46%	64%	87%
Detroit	2006-2008	59%	69%	76%	84%
	2008-2010	N/A	54%	66%	78%
Houston	2006-2008	62%	68%	74%	82%
	2008-2010	42%	53%	63%	75%
Los Angeles	2006-2008	87.1%	89.3%	91.2%	93.2%
	2008-2010	87%	89%	91%	93%
New York	2006-2008	64%	74%	92%	N/A
	2008-2010	52%	67%	89%	N/A
Philadelphia	2006-2008	54%	61%	68%	74%
	2008-2010	42%	52%	61%	68%
Sacramento	2006-2008	63%	70%	76%	84% <sup>5</sup>
	2008-2010	64%	71%	77%	84%
Saint Louis	2006-2008	45%	56%	66%	75%
	2008-2010	10%	34%	50%	63%
Washington D.C.	2006-2008	53%	60%	67%	74%
	2008-2010	31%	50%	60%	71%

\* N/A values for the 75 ppb standard level mean that a particular urban area did not have any design values above 75 for that 3-year period so no controls were needed. N/A values for the 60 ppb standard level mean that this adjustment methodology was not able to bring design values down to 60 for that particular city and 3-year period.

# % Nationwide Reductions from 2007 Emissions Needed Attain 75 ppb NAAQS (Graph of HDDM Results Table in HREA Appendix)

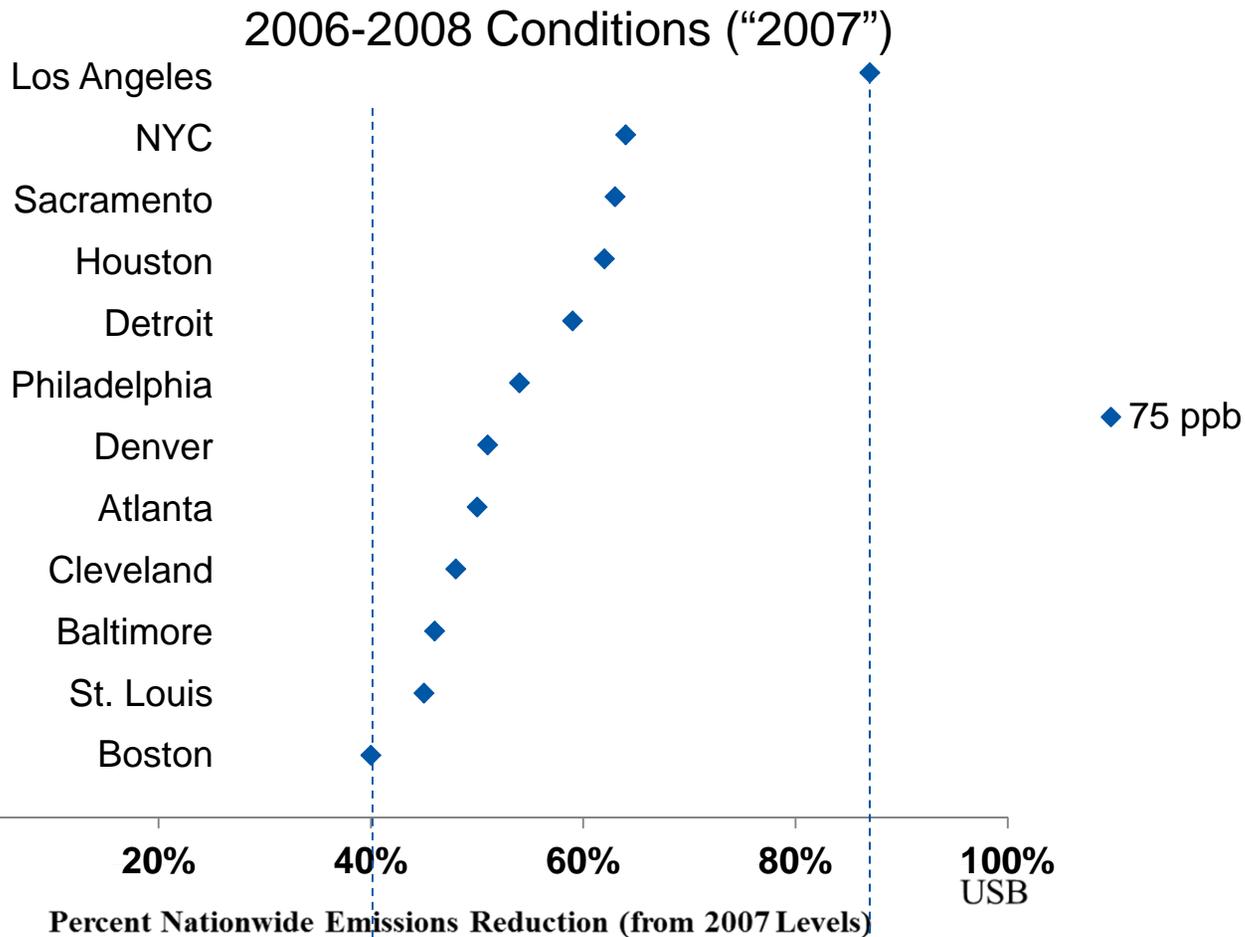


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Table 2, Appendix 4-D of HREA



*41% to 87% emissions reduction from 2007 levels needed to attain current NAAQS (75 ppb)*

# % Nationwide Reductions from 2007 Emissions to Attain Alternative Standards (Graph of HDDM Results Table in HREA Appendix)



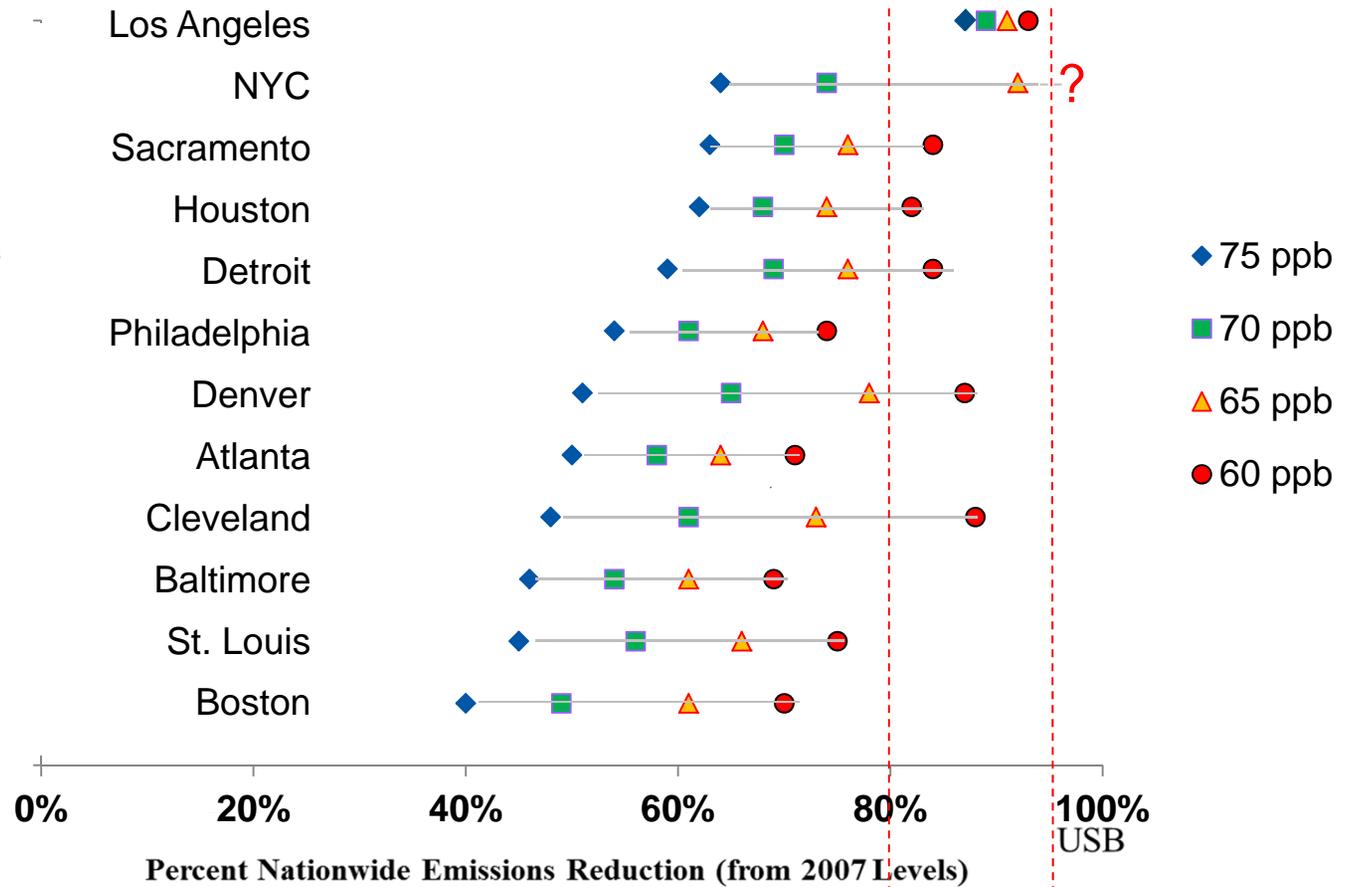
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Table 2, Appendix 4-D of HREA

## 2006-2008 Conditions ("2007")



*80% to >93% emissions reduction from 2007 levels needed to attain 60 ppb in a majority of HREA cities*

# % Emissions Reductions Can Be Graphed Against Each City's Respective Changes in Exposures that Drive Risk Estimates



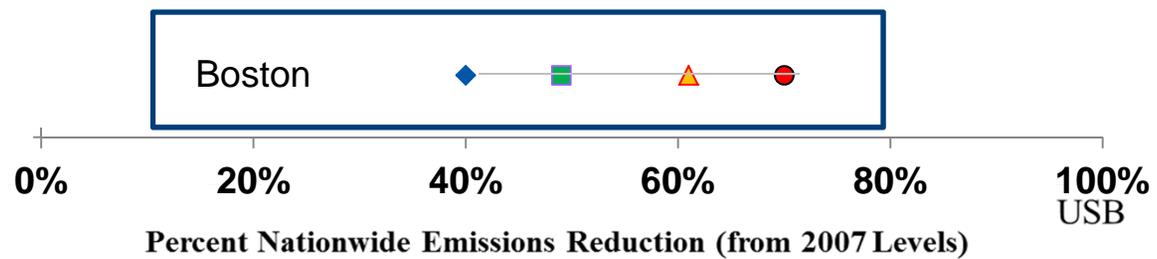
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## Example that follows focuses on Boston data

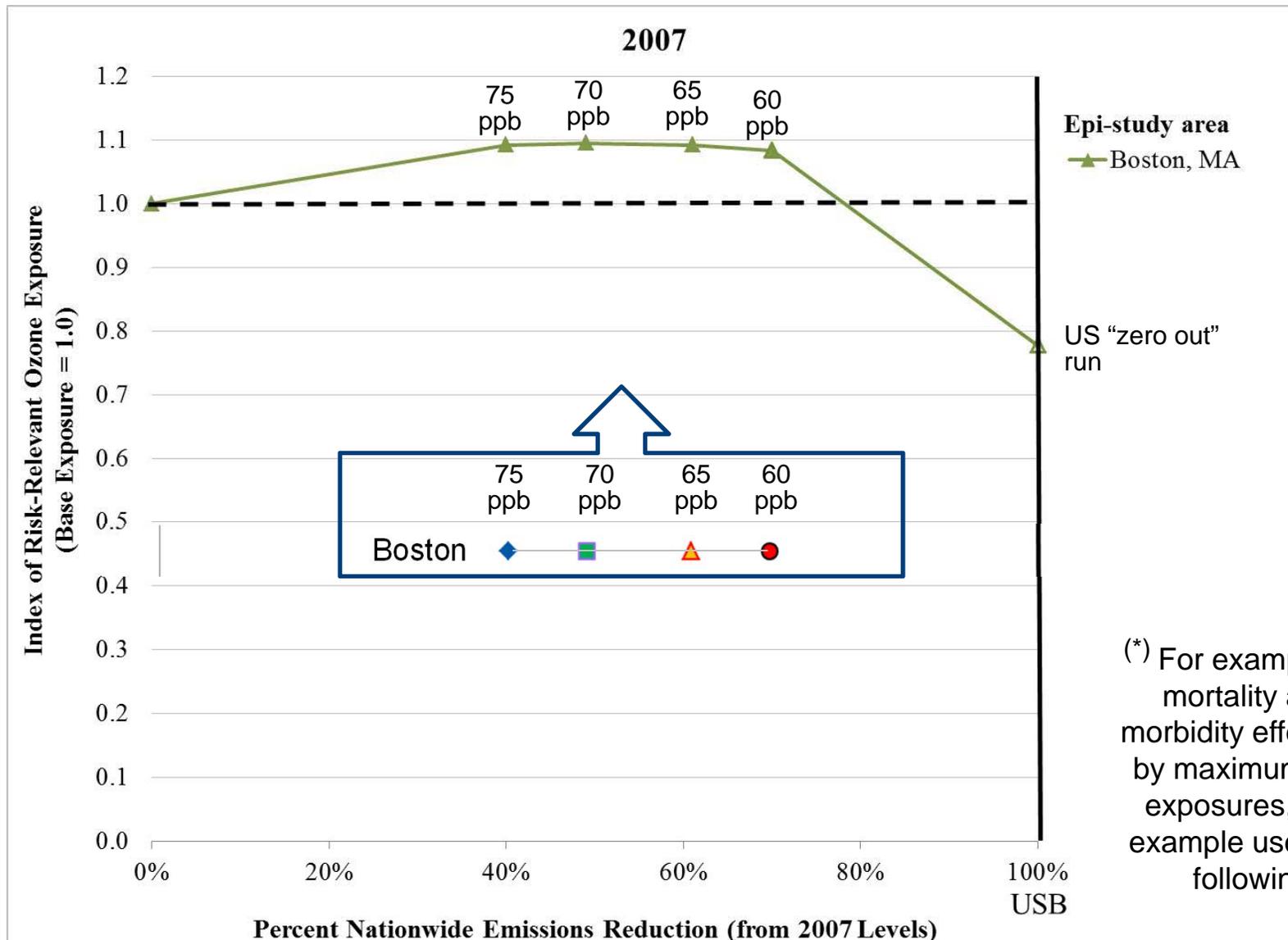
- ◆ 75 ppb
- 70 ppb
- ▲ 65 ppb
- 60 ppb

Table 2, Appendix 4-D of HREA



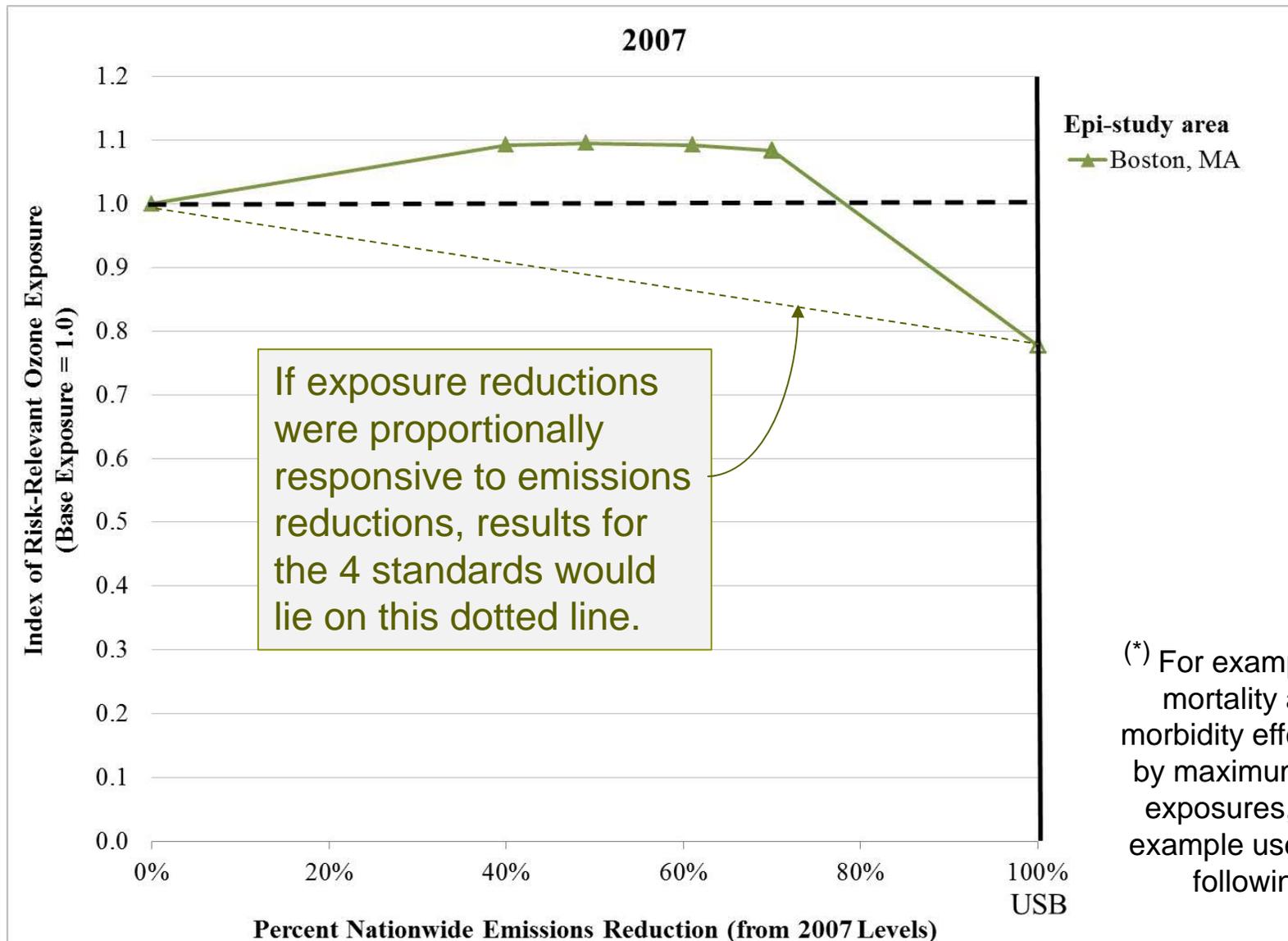
# % Emissions Reductions Can Be Graphed Against Each City's Respective Changes in Exposures that Drive Risk Estimates<sup>(\*)</sup>

## Example for Maximum Daily 8-Hour Exposures in Boston:



# The Resulting Graph Using HREA Data Reveals That Risk-Relevant Exposures<sup>(\*)</sup> Can Be Unresponsive to Emissions Reductions

## Example for Maximum Daily 8-Hour Exposures in Boston:

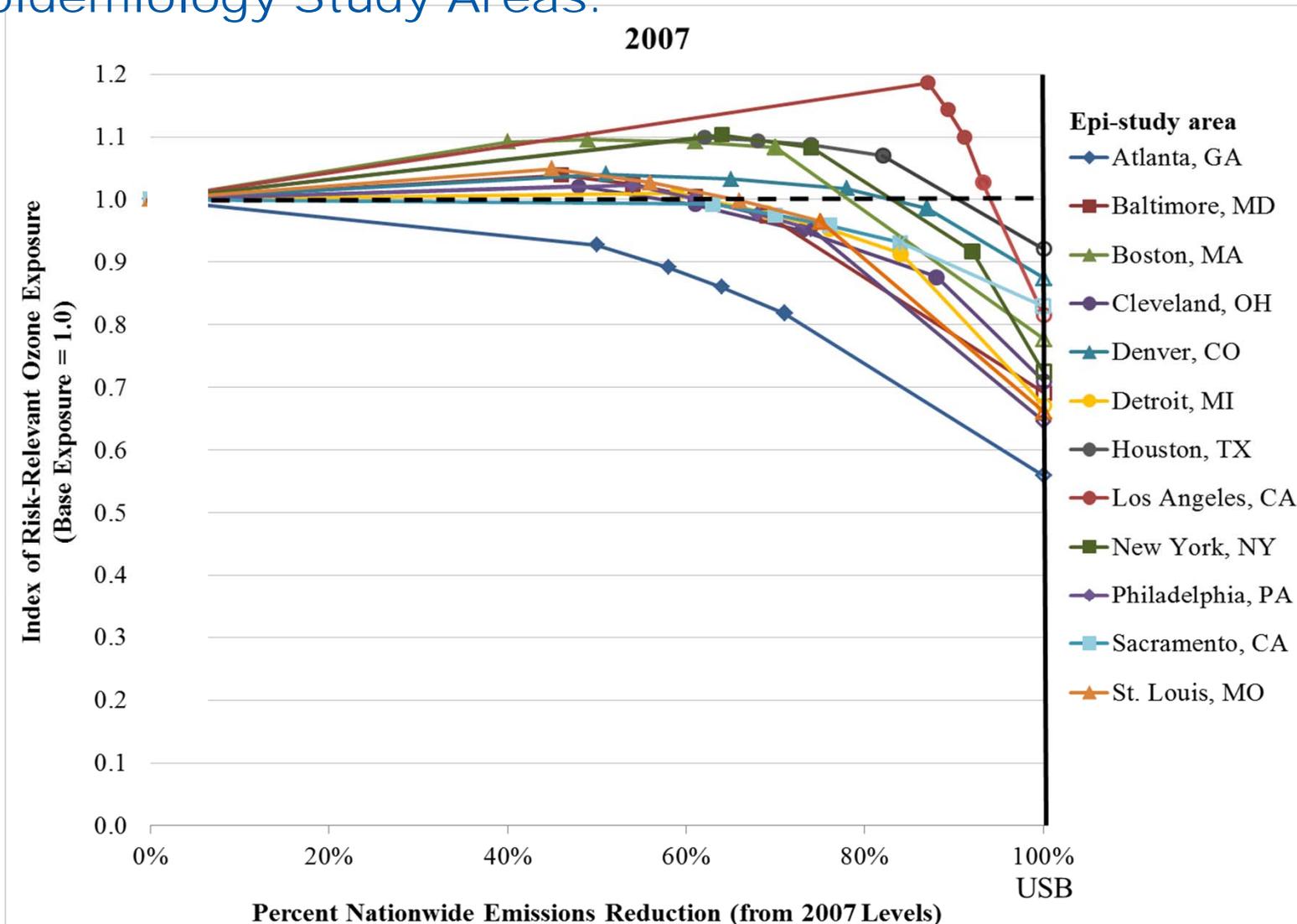


# Unresponsiveness of MDA8 Exposures Appears in All Cities' Epidemiology Study Areas



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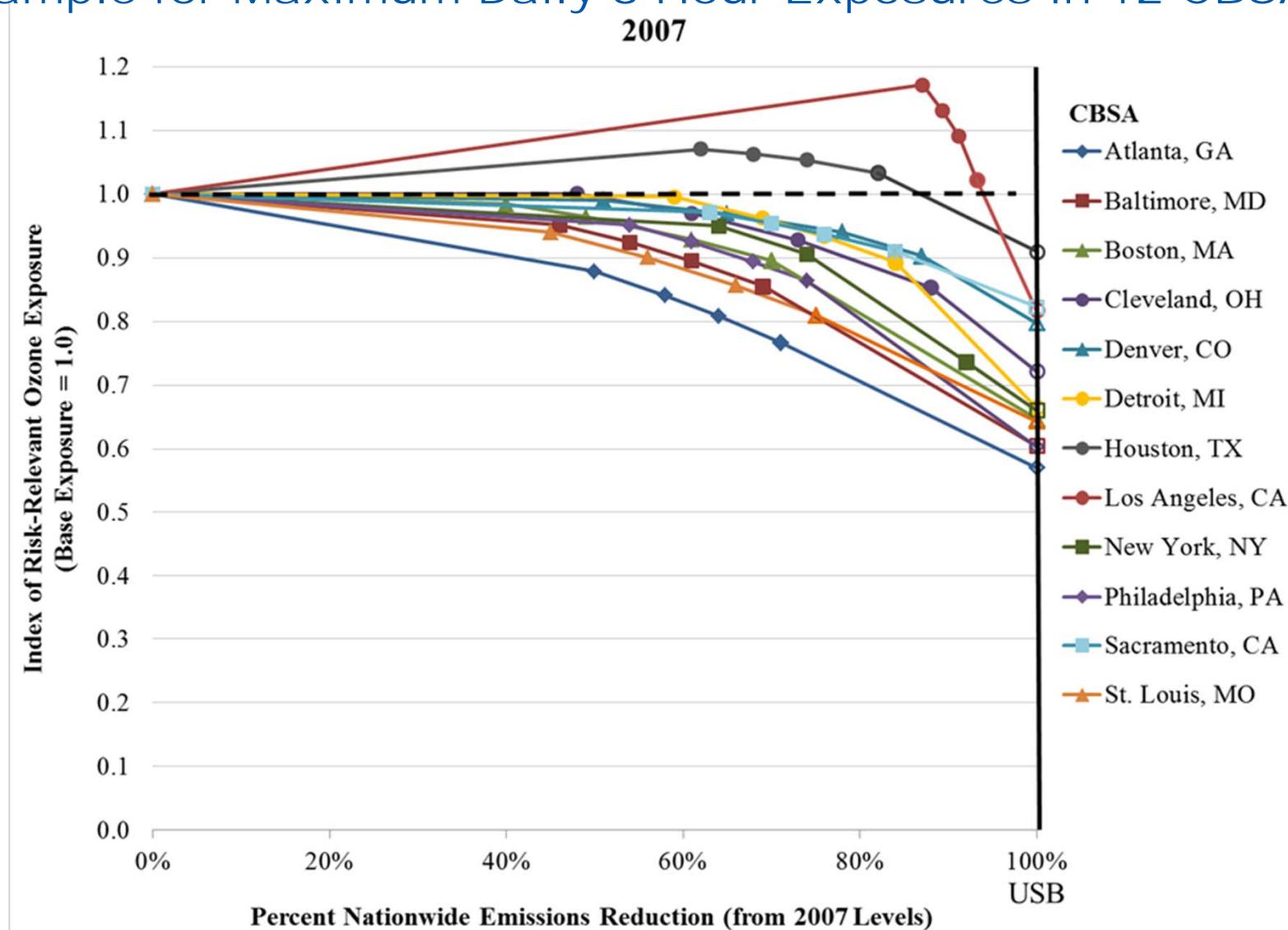
Example for Maximum Daily 8-Hour Exposures in 12 Epidemiology Study Areas:



# Unresponsiveness of MDA8 Exposures Also Appears in All 12 CBSAs



Example for Maximum Daily 8-Hour Exposures in 12 CBSAs:



Note: this is a corrected version of Figure 1 in ASmith's 3/13/14 "Advance written materials for CASAC meeting".

# Key Recommendations for PAD Revisions



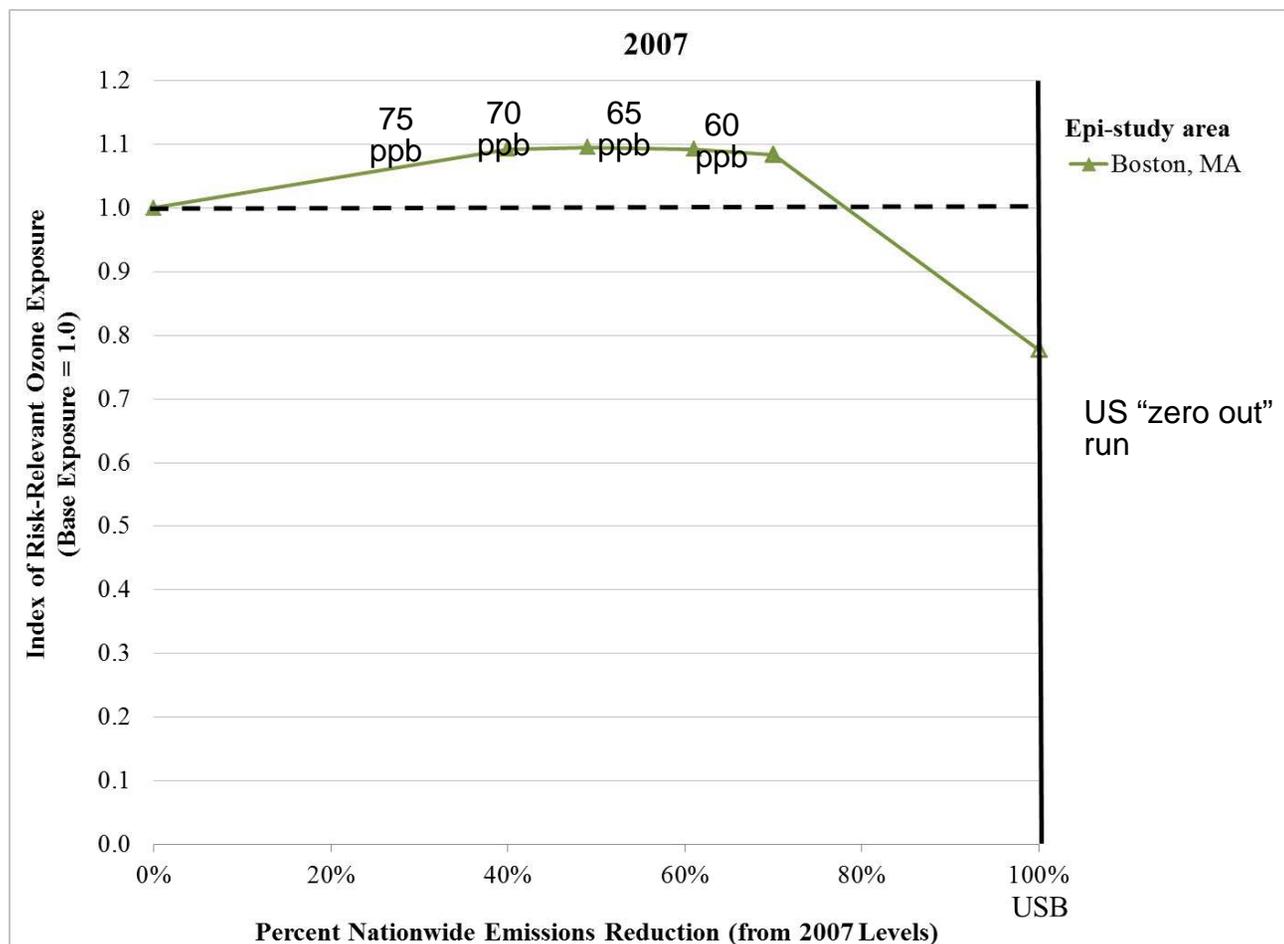
1. Report the % emissions reduction estimates needed to attain each alternative standard (*i.e.*, HDDM results)
2. Provide charts showing responsiveness of HREA's risk-relevant ozone exposure metrics to % reductions in emissions
3. Based on insights from above, provide assessment and discussion of :
  - Differential health impacts on people in urban versus suburban settings
  - How to make NAAQS decisions in the face of unresponsive risks and exceedingly high % emissions reduction needs

# The Point: The HREA Says Risks Get Worse As Emissions Are Decreased



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Example for Maximum Daily 8-Hour Exposures in Boston:



This slide was presented in the clarifying comment period (3/27/14) to respond to the erroneous statement by D. Shprentz (on 3/26/14) that I had argued that the alternative standards were "infeasible" to attain.

# Contact Us



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