

Observed and Predicted Weekday VOC/NOx Ratios

Locations	1987	August 4-7 1997			1999-2000
	SCAQ5 07-08 Observed NMOG*/NOx	PAMS 06-09 Observed NMHC*/NOx	CAMx/MM5 06-09 CB4/E2K1 NMHC/NOx	06-09 Observed/ Predicted	PAMS 06-09 Observed NMHC*/NOx
	Anaheim	9.3			
Azusa	8.1	4.6	4.0	1.2	4.4
Burbank	9.2				
Los Angeles	8.6	4.3	3.7	1.2	3.8
Claremont	8.7				
Hawthorne	9.5				
Long Beach	8.7				
Rubidoux	8.6				
Pico Rivera		2.9	4.1	0.7	3.7
Upland		3.9	3.0	1.3	4.0
Mean	8.8	3.9	3.7	1.1	4.0
Std Dev	0.4	0.7	0.5	0.3	0.3
EI MV ROG/NOx Amb/EI Ratio	4.0 2.2				

CAMx/MM5 modeling data courtesy of ENVIRON
 EMFAC 2000 emissions prepared by the ARB
 Source: CRC A-38 - Yarwood et al. 2003

Emission inventory VOC/NOx ratios are in better agreement with corresponding ambient ratios in 1997 than 1987.

1999-2000 VOC & NOx

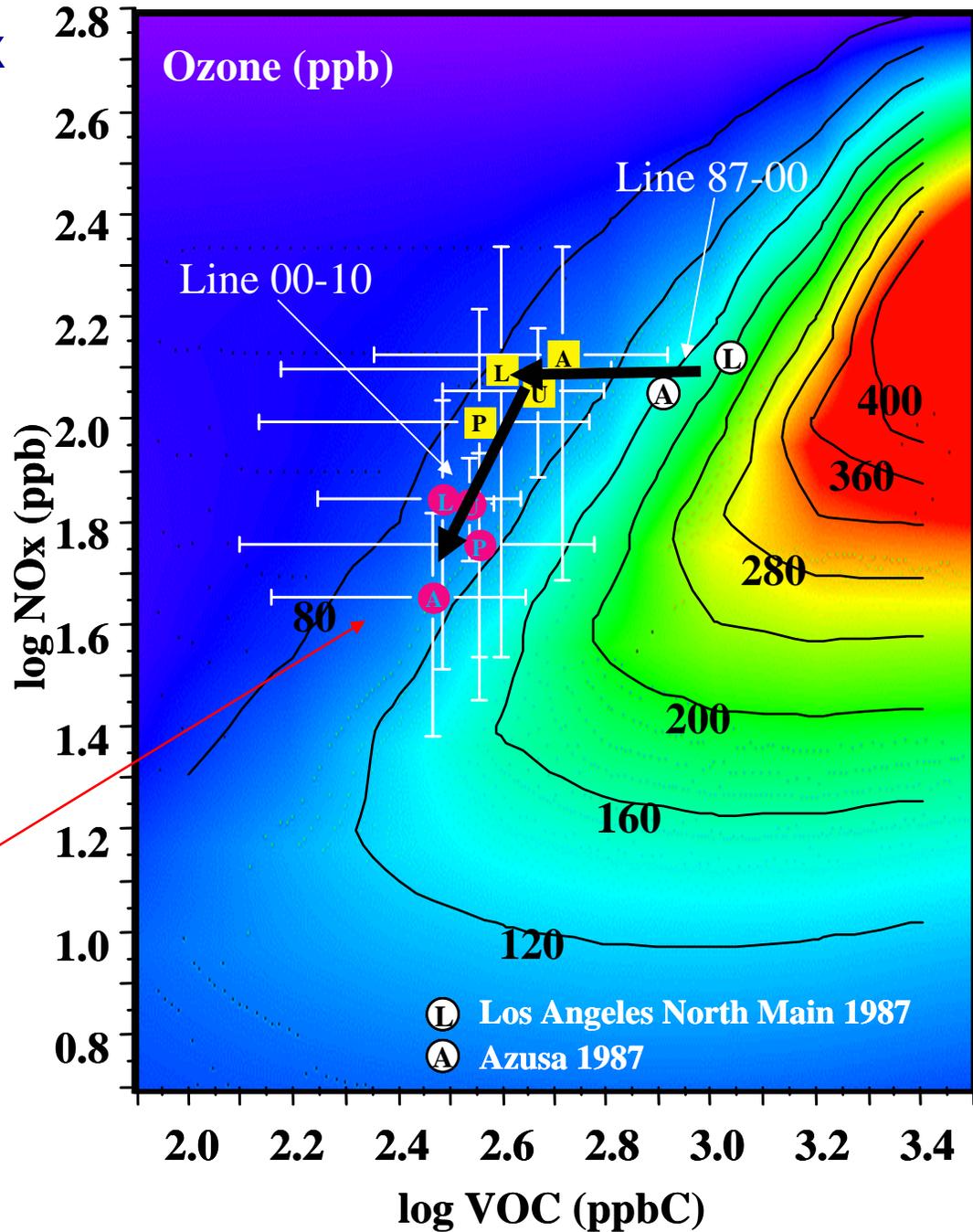
 Mean Wednesday
 ± 1 sigma

 Mean Sunday
 ± 1 sigma

Monitoring Stations

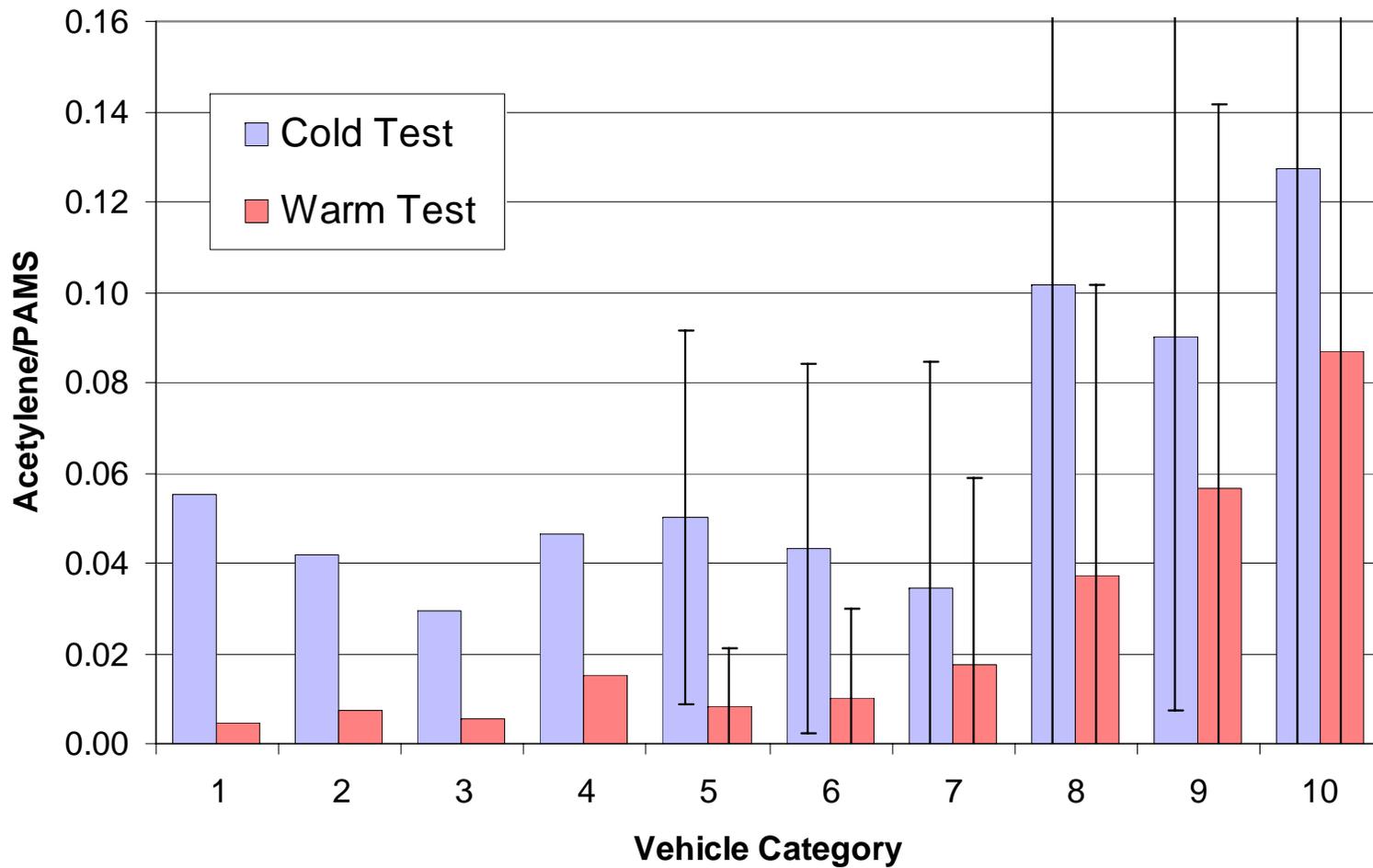
- A – Azusa
- L – Los Angeles, N. Main
- P – Pico Rivera
- U – Upland

Weekday VOC and NOx emissions in 2010 are projected to be similar to weekend emissions in 2000.

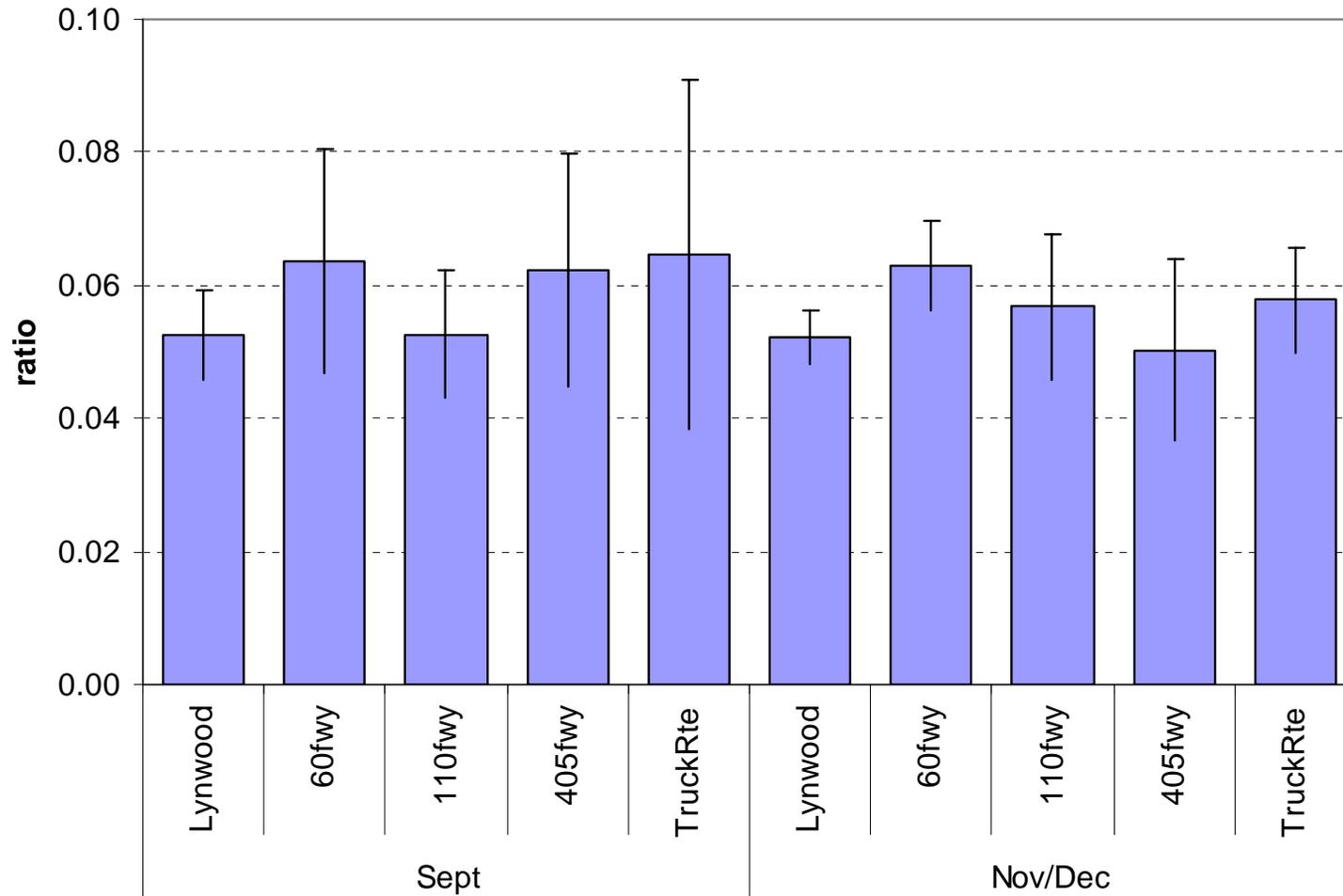


Ratios of Acetylene to Sum of 55 PAMS Species

Cold and Hot LA-92 Cycle by Model Year and Mileage Groups



Ratios of Acetylene to Sum of 55 PAMS Species Ambient and On-Road Samples in SoCAB



SUMMARY

- What could be done differently to more effectively reduce ozone levels given the need to attain fine particulate standards?
 - Ensure that VOC emissions are reduced sufficiently to avoid increasing VOC/NO_x ratios and ozone in central basin.
- What research and development should be emphasized in the near future to further air quality improvements and our understanding of the issues?
 - Verify VOC emission reductions.
 - Conduct sampling in regionally representative areas away from roadway.
 - Expand the list of measured VOCs with species that are relevant to other potentially important VOC sources.
 - Effect of emission changes on mid-basin versus downwind ozone levels