

# Mobile Monitoring Platform Update and Recent Results



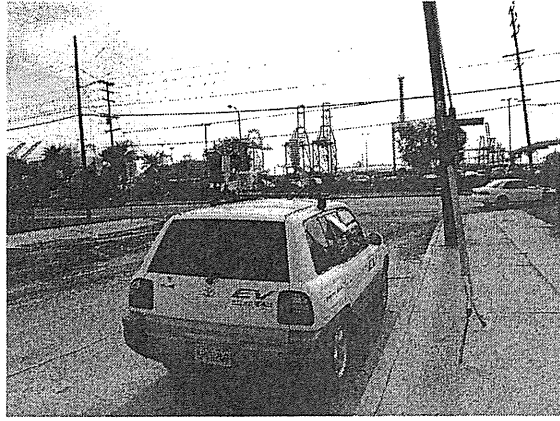
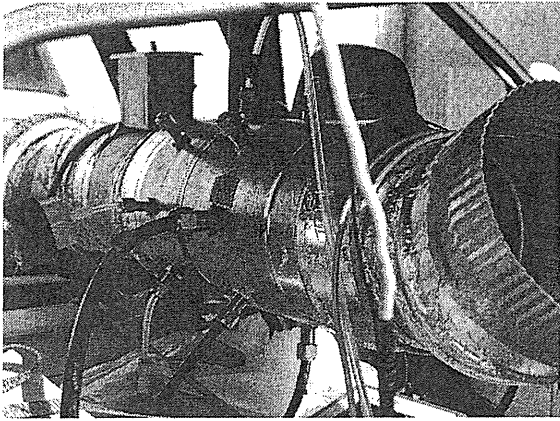
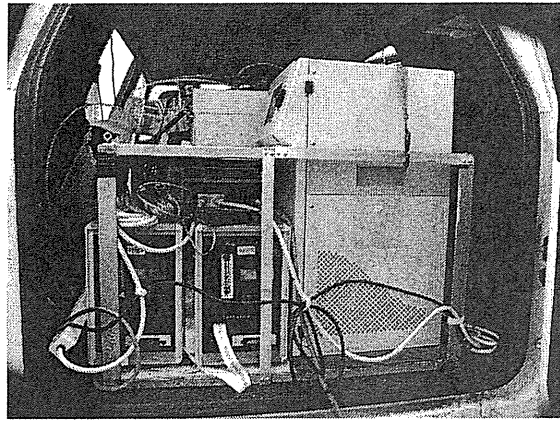
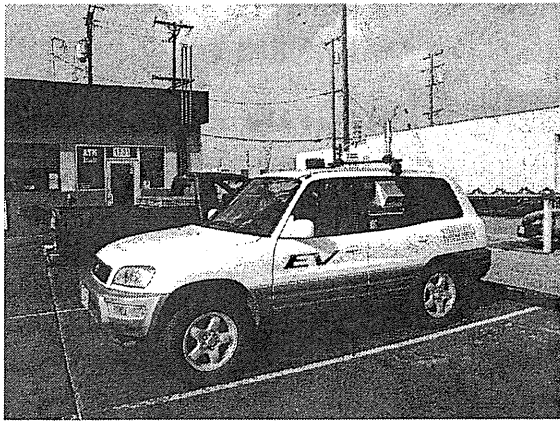
Kathleen Kozawa  
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California Air Resources Board  
HCMS Community Meeting  
Wilmington Senior Center  
April 17, 2008

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## Objectives

- Use real-time instruments on a mobile platform to measure pollution concentrations and their gradients with high spatial and temporal resolution to determine:
  - the relative importance of sources to exposure
  - the locations and extent of areas of high pollution impact from local sources and under what conditions they occur.

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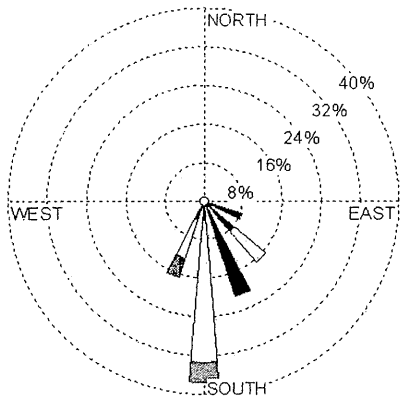


# Results Buffer Zones

Winter and Summer 2007

# Wind Roses NOAA Site B161 July 17, 2007

Morning 7:00-10:00

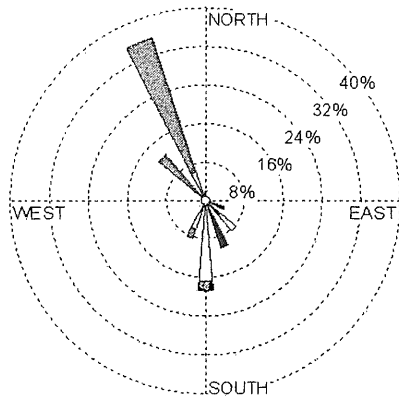


WIND SPEE  
(m/s)

- ≥ 11.1
- ▨ 8.8 - 11
- 5.7 - 8
- ▧ 3.6 - 5
- ◻ 2.1 - 3
- 0.5 - 2

Calms: 0.00%

Afternoon 14:00-17:00



WIND SPEE  
(m/s)

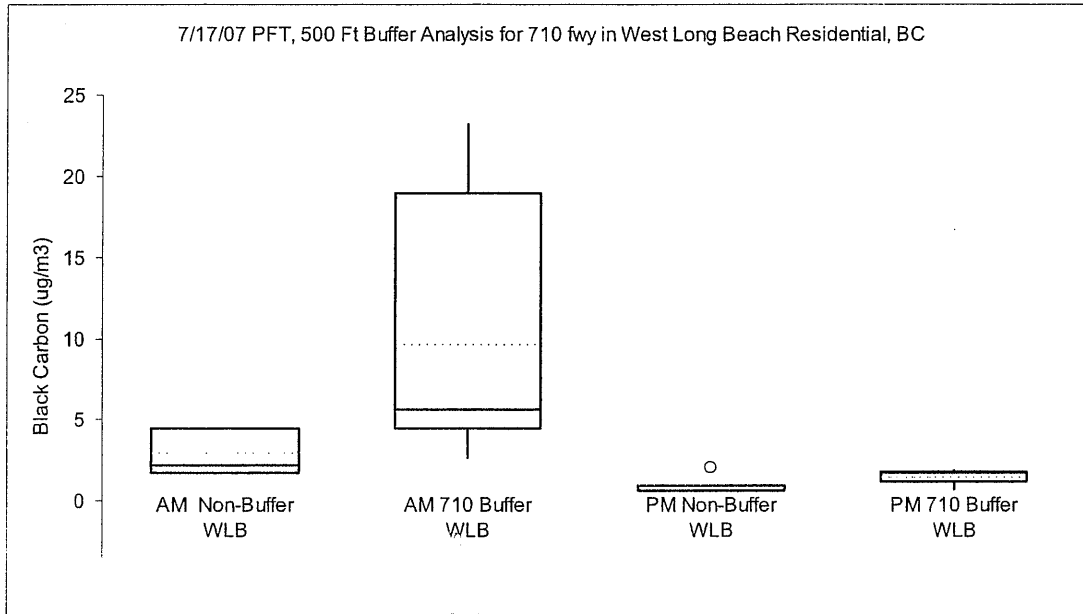
- ≥ 11.1
- ▨ 8.8 - 11
- 5.7 - 8
- ▧ 3.6 - 5
- ◻ 2.1 - 3
- 0.5 - 2

Calms: 0.00%

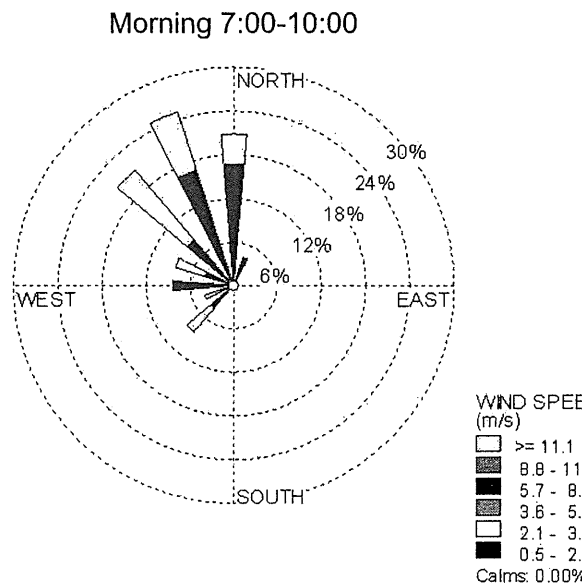
## I-710 Buffer Analysis



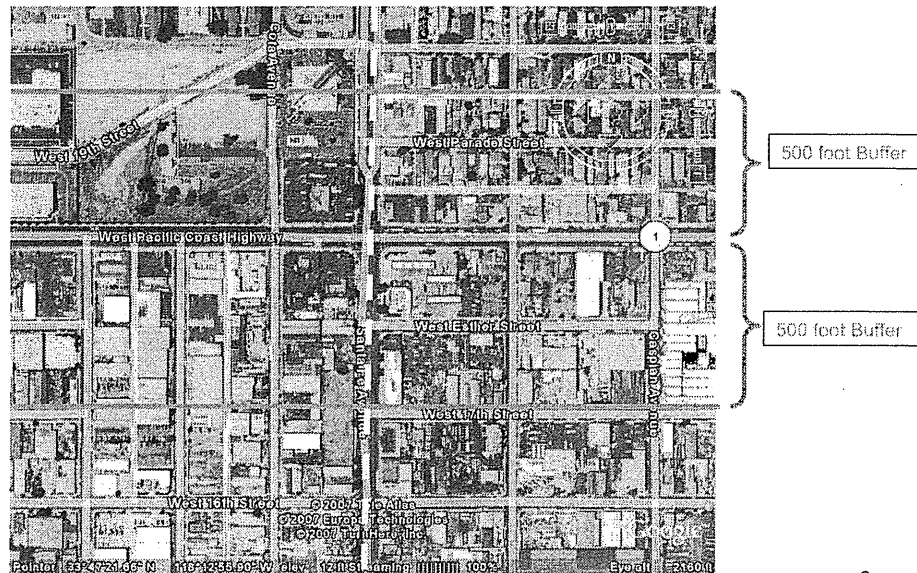
# I-710 Buffer Analysis, Black Carbon



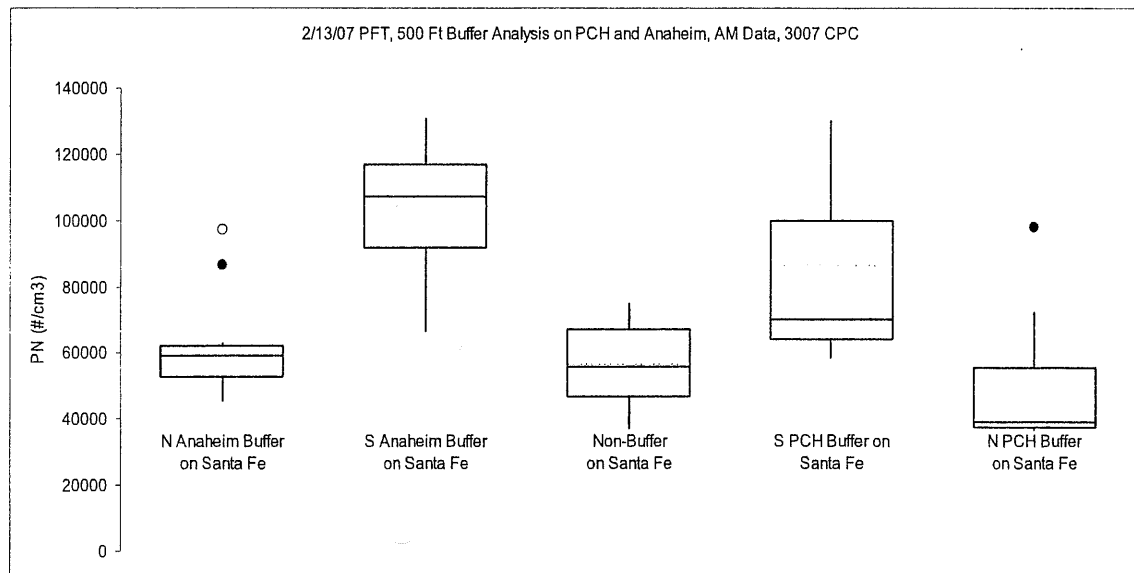
# Morning Wind Rose NOAA Site B161 February 13, 2007



# North and South Buffers on Pacific Coast Highway (PCH)

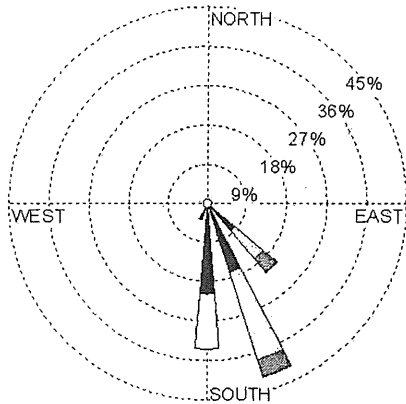


## Morning PCH and Anaheim Buffers, Particle Number

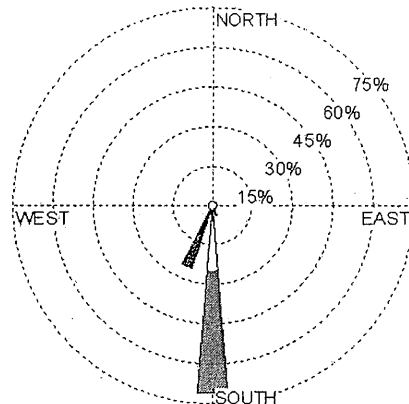


# Wind Roses NOAA Site B161 July 31, 2007

Morning 7:00-10:00



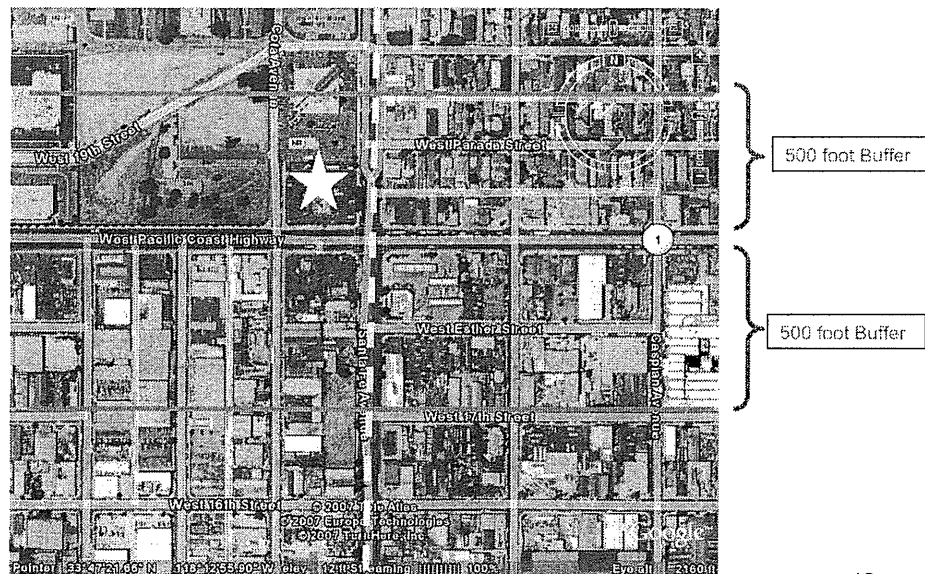
Afternoon 14:00-17:00



WIND SPEED (m/s)  
 >= 11.1  
 8.8 - 11  
 5.7 - 8  
 3.6 - 5  
 2.1 - 3  
 0.5 - 2  
 Calms: 0.00%

WIND SPEED (m/s)  
 >= 11.1  
 8.8 - 11  
 5.7 - 8  
 3.6 - 5  
 2.1 - 3  
 0.5 - 2  
 Calms: 0.00%

## McDonalds Site



# “Stationary” Monitoring, NO



## Summary and Implications

- Concentrations of black carbon, and NO, as well as particle number, are elevated in buffer areas near heavily traveled roadways
- The presence of heavy-duty diesel trucks and meteorology are important factors determining where and when the highest pollutant impacts occur
- Depending on meteorology, near-roadway exposures can be significant for persons living, working, shopping, or recreating in buffer areas close to heavily trafficked roadways

# Acknowledgements

- Steve Mara, ARB
- ARB Green House Gas Technology and Field Testing Section
- Costas Sioutas, Katharine Moore, Mike Geller, University of Southern California
- Port of Los Angeles, EV Charging
- Toyota, EV Lease