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PEOPLE Project Population Exposure to Air Pollutants in Europe

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DG Joint Research Centre
European Commission

The PEOPLE project (2002-2005) is coordinated by the Joint Research Centre with the aim of assessing the exposure of citizens to air pollutants in different European cities



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Main Objectives of the PEOPLE Project





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Participating

and time schedule



DUBLIN

- SCHOOL
- Students
- Students study
- Students join citizens debate



PROJECT:
SCHOOLS
(to 16)

citizens
using
citizens...

LISBON

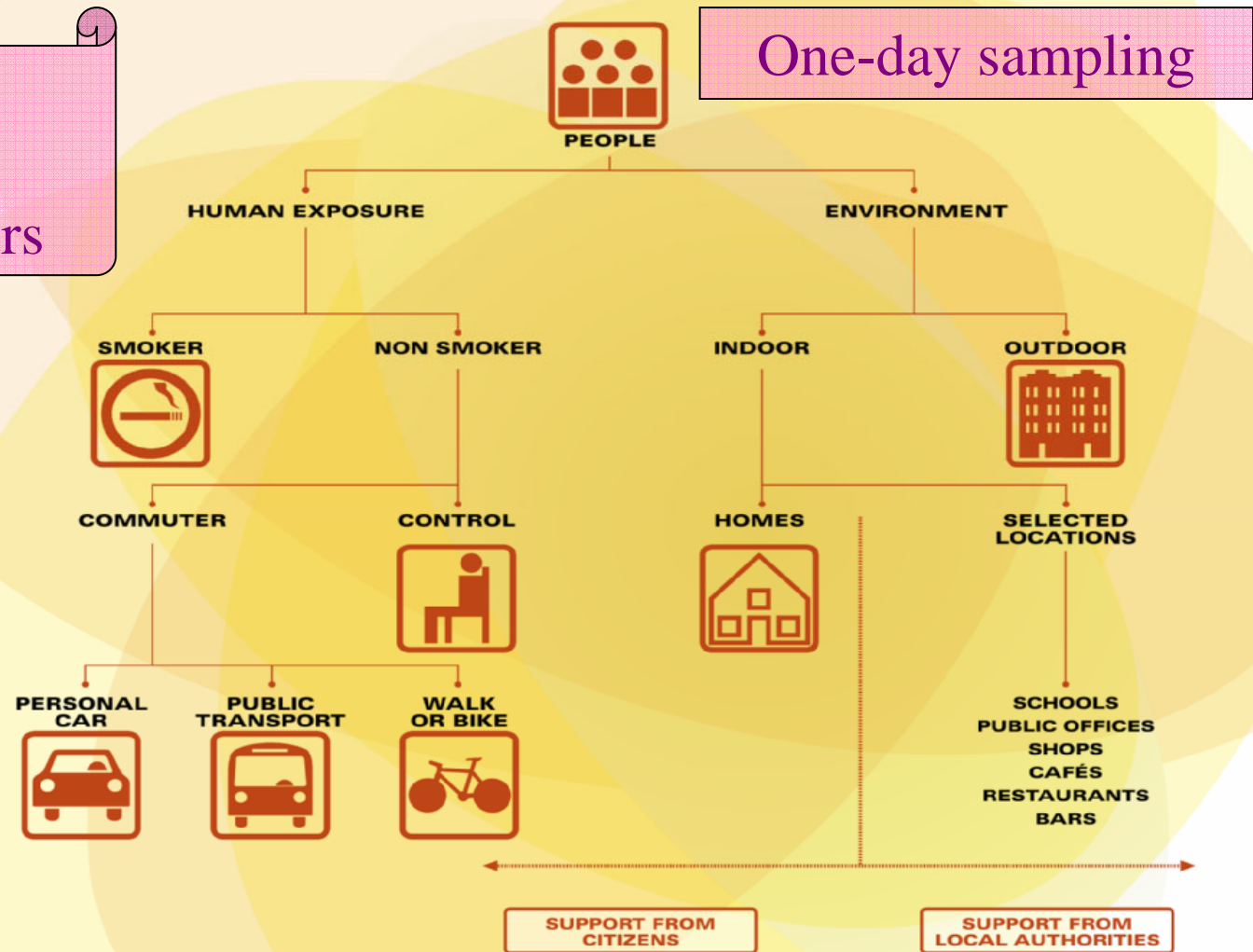
ANGES
gathering
the topic
results



Implementation of the PEOPLE project

Involvement of the media:
TV, radio, newspapers

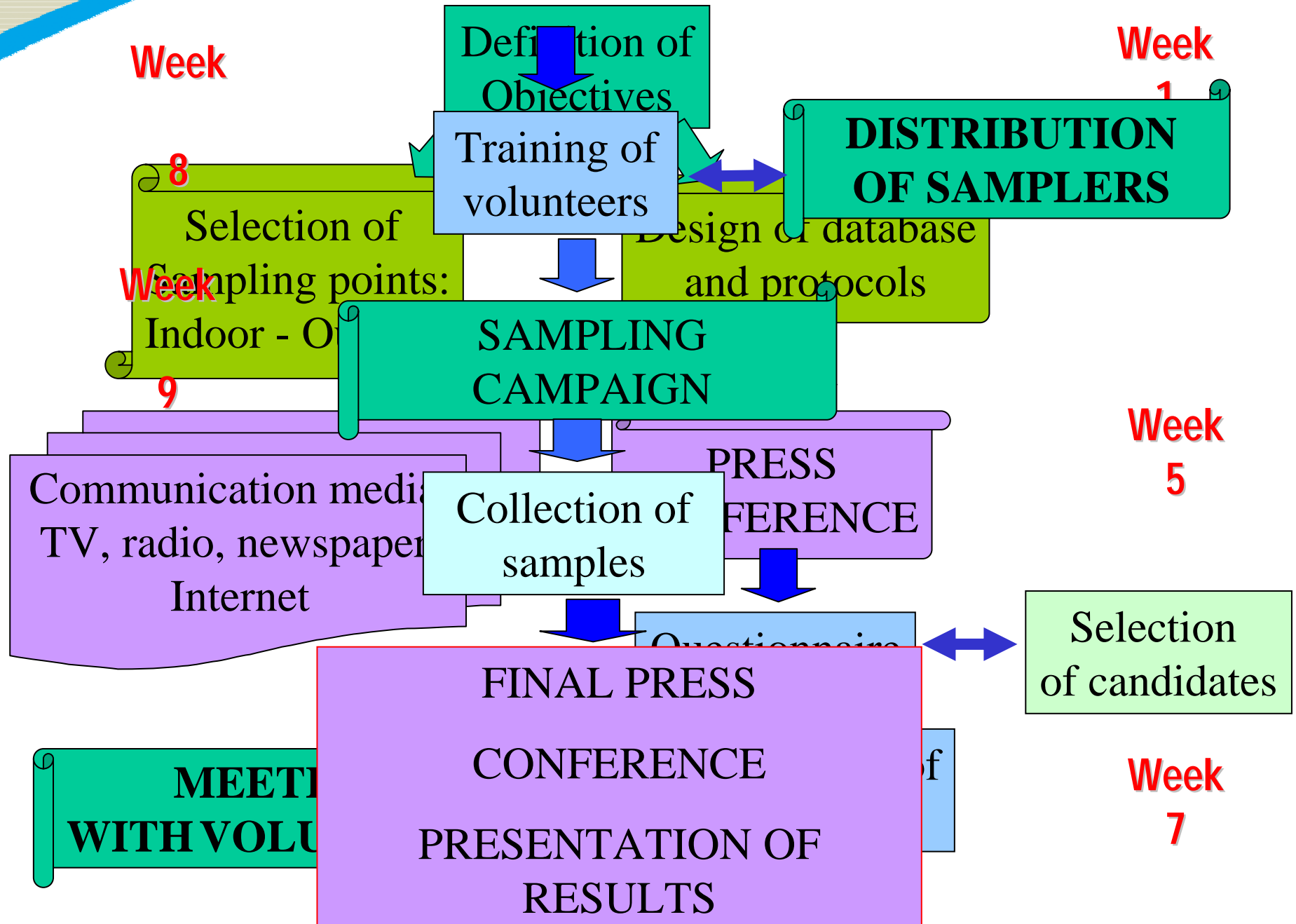
Awareness raising of citizens



High interest from Local Authorities



Planning of the exposure campaign



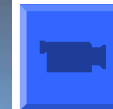
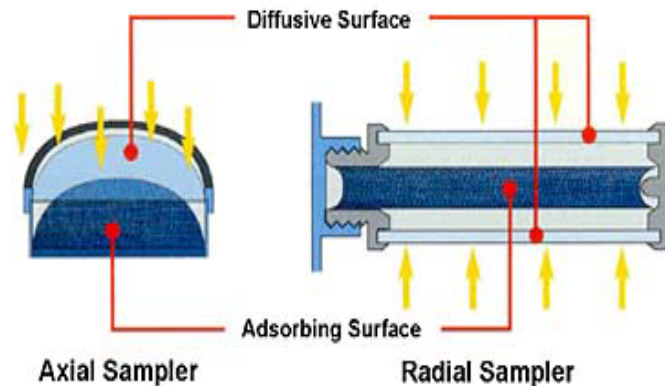


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Sampling Technique

Diffusive Sampling Techniques (Benzene and Aromatic Compounds)



Low Volume Samplers and Light scattering-type aerosol monitors (PM10 and speciation: PAH, HM)

from 12 to 24 hours





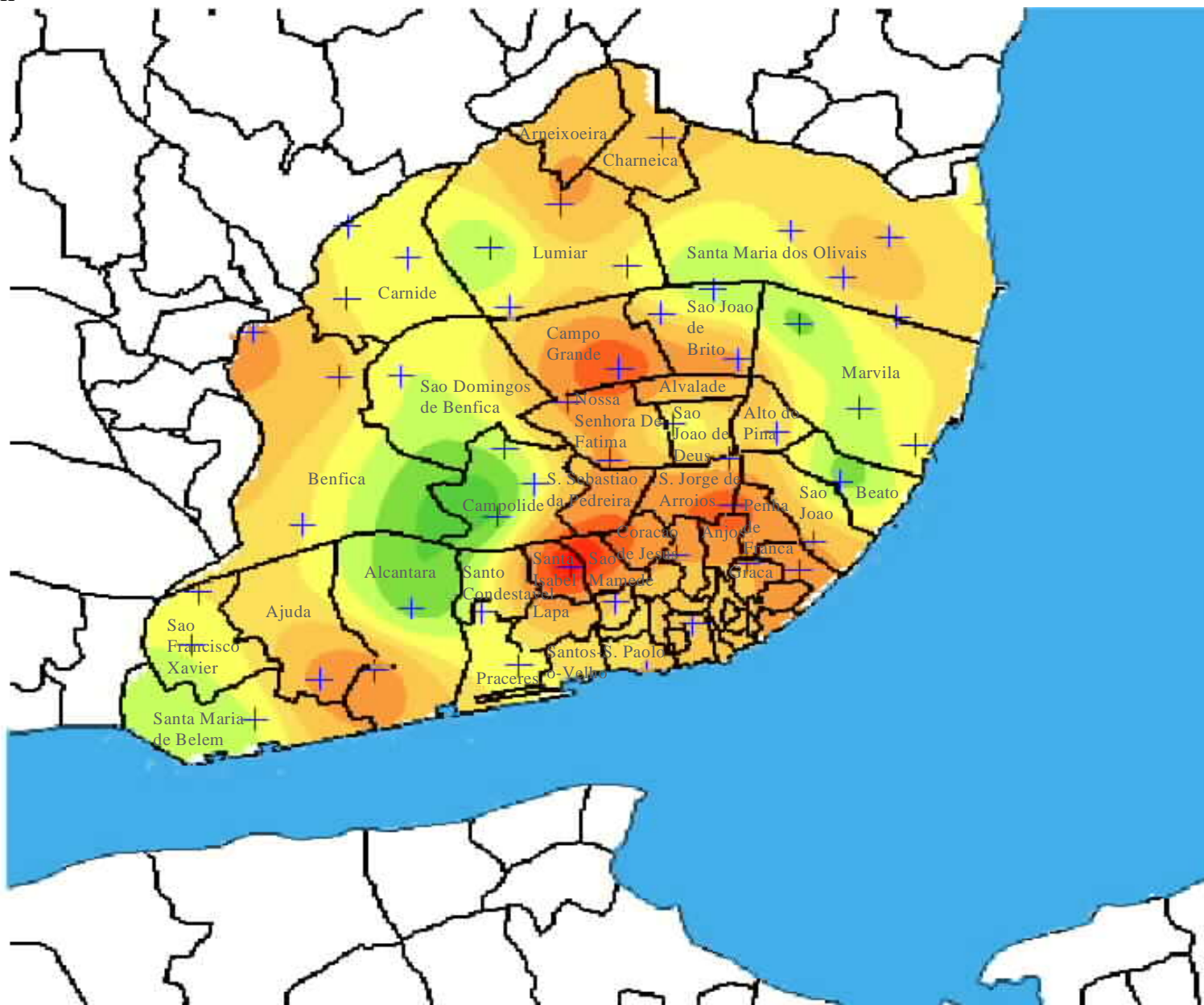
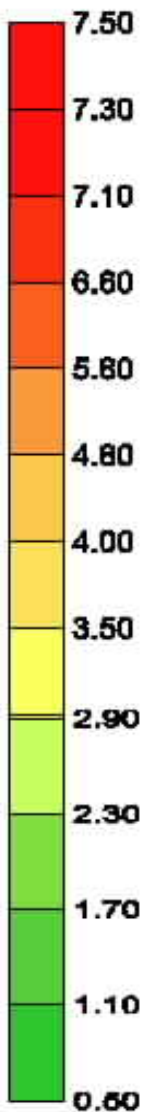
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Benzene Concentration

From one-day snapshot to annual average value

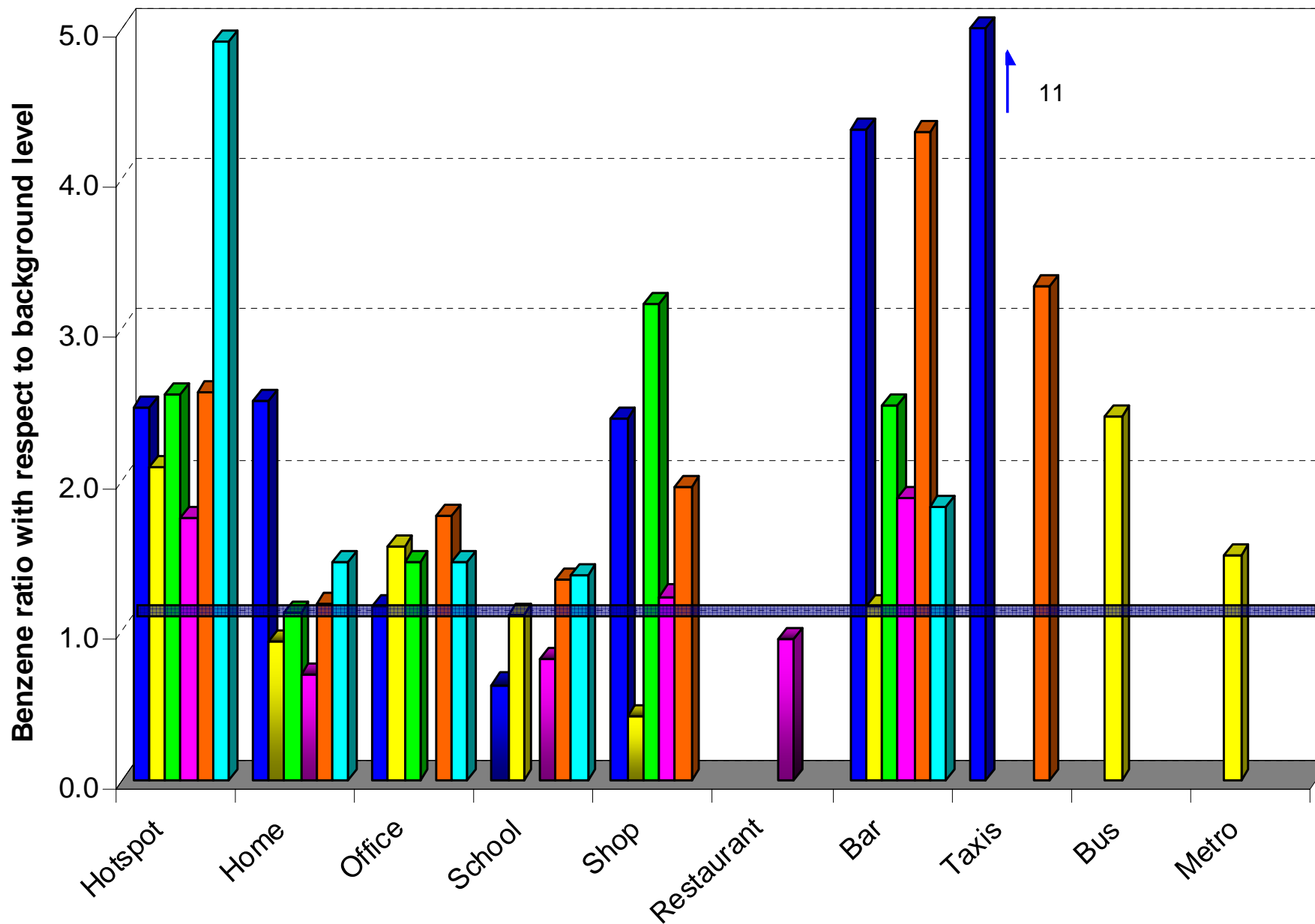
$\mu\text{g}/\text{m}^3$





Outdoor and micro-environments

■ Brussels ■ Lisbon ■ Bucharest ■ Ljubljana ■ Madrid ■ Dublin

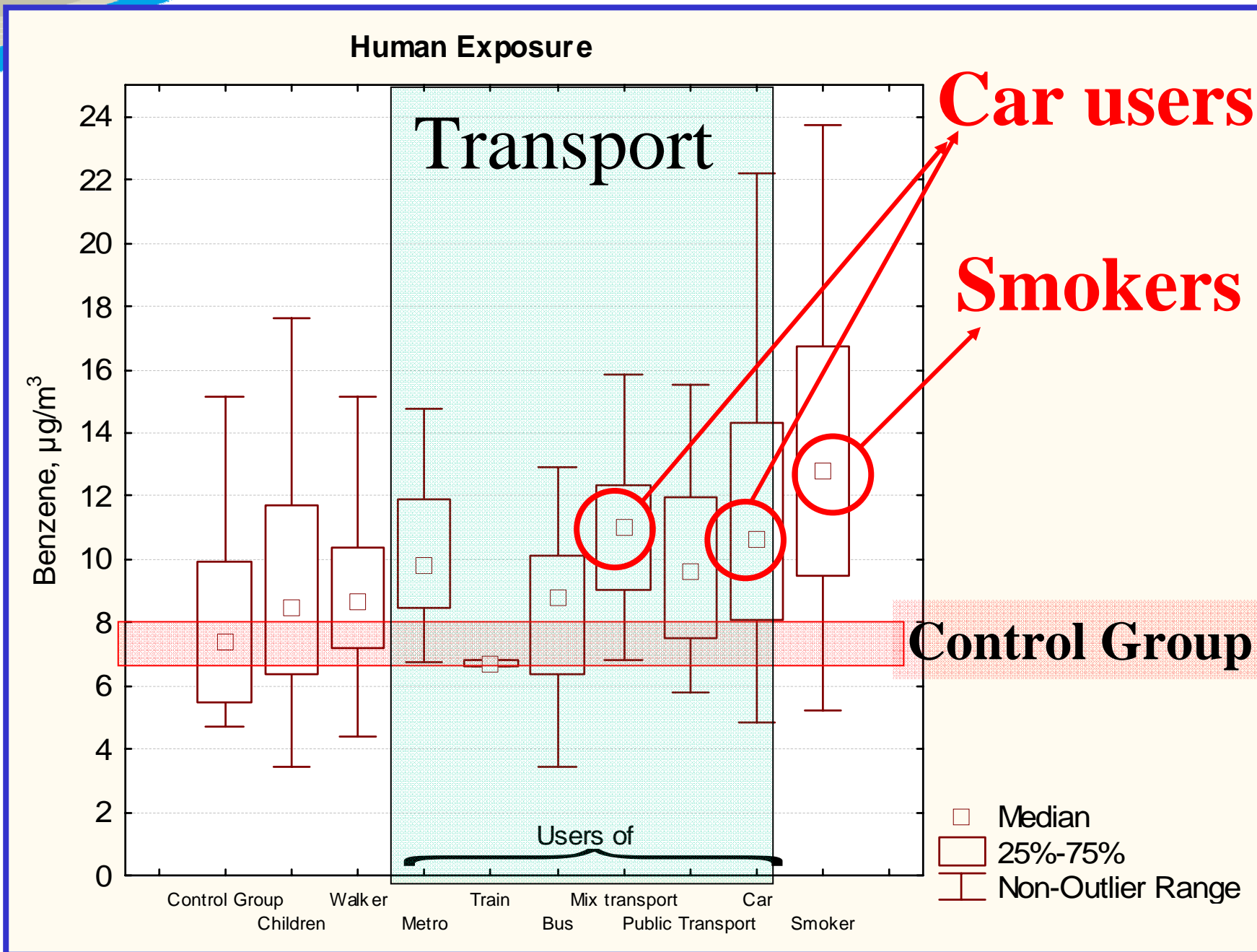




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Benzene exposure levels in Madrid





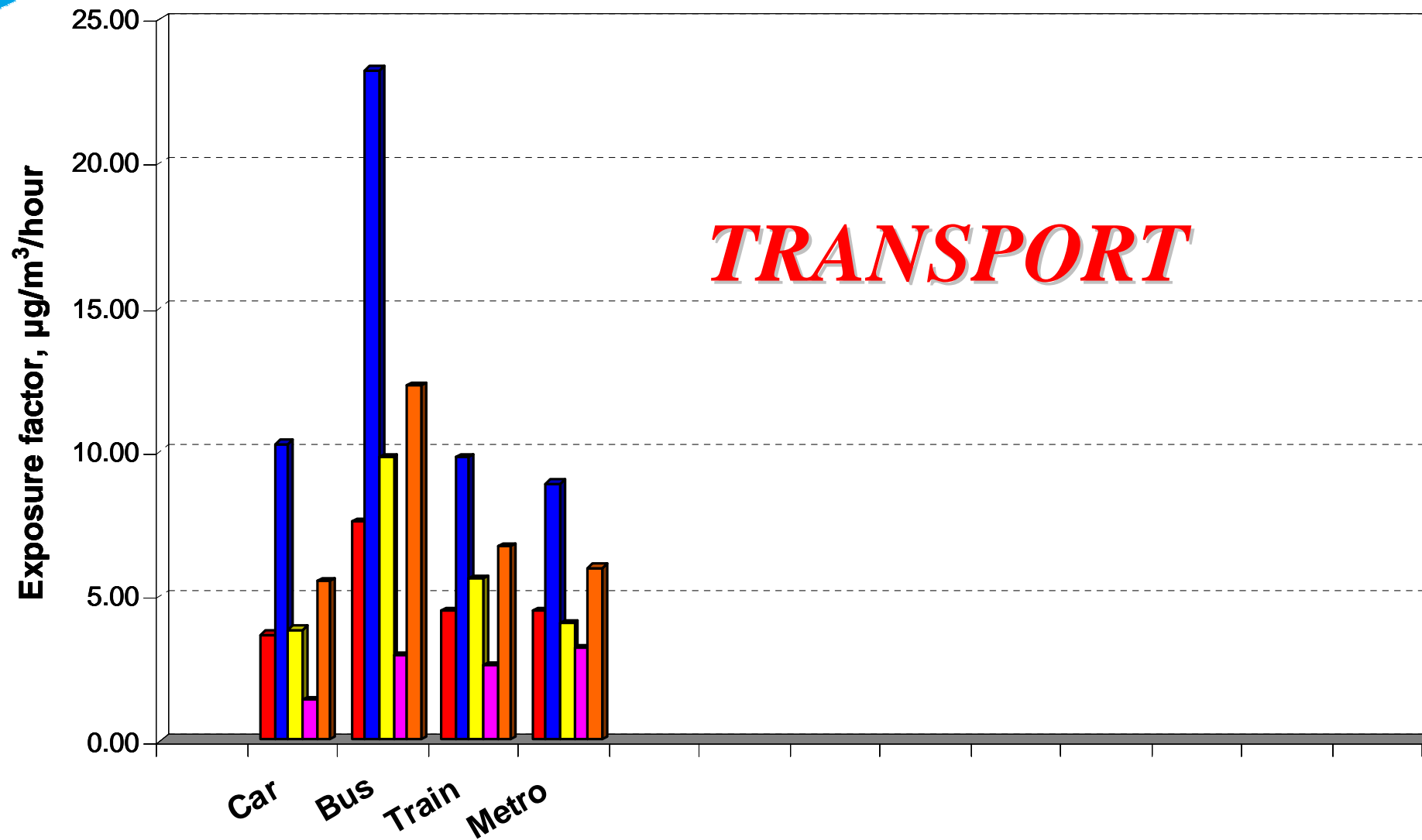
Movement Diary

		TRAVELLING					INSIDE						OUTSIDE			SMOKING	
		Walk	Bus	Train	Metro	Other *	Home	Work	Café Bar	Shops	Restau- -rant	Other *	Street	Park	Other *	Self	Same room
7	0	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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8	0	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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9	0	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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- Simple one page diary with 6 questions
- Used to provide data and ensure sample integrity
- Sampler and diary are easy to use

Exposure factors in Madrid

■ Benzene ($\mu\text{g}/\text{m}^3/\text{hour}$) ■ Toluene ($\mu\text{g}/\text{m}^3/\text{hour}$) ■ Ethyl-benzene ($\mu\text{g}/\text{m}^3/\text{hour}$) ■ m,p-xylene ($\mu\text{g}/\text{m}^3/\text{hour}$) ■ o-xylene ($\mu\text{g}/\text{m}^3/\text{hour}$)





*City Annual Exposure level ($\mu\text{g}/\text{m}^3$)
for non-smoking commuting population*

Brussels (2002)	5.1
Lisbon (2002)	6.1
Bucharest (2003)	12.9
Ljubljana (2003)	5.5
Madrid (2003)	5.1
Dublin (2004)	2.9

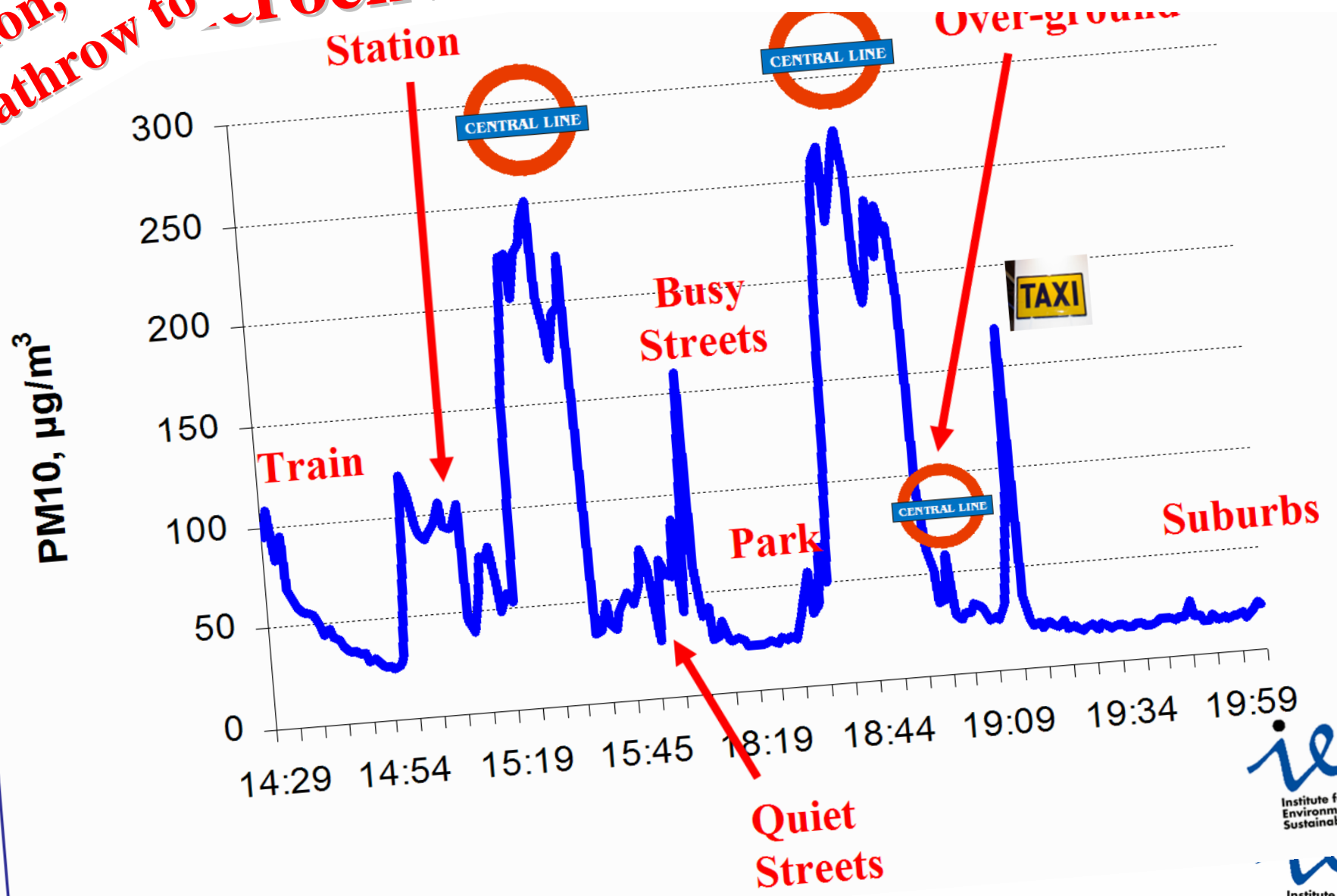


Dr. Duhr.
London, 14 Sep 05
From Heathrow to Woodford - April-04

3-Dec-03

air levels

Joint Research Centre





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Key conclusions

- Average exposure levels of the population are higher than outdoor background levels
- Hotspots and pollution in micro-environments affect your level of exposure
- Style of living is also a factor for exposure



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People behind PEOPLE

- P. Pérez Ballesta, E. De Saeger, R. Field, A. Baeza, I. Nikolova, R. Connolly, R., N. Cao, M. Gerboles, D. Buzica **for the Joint Research Centre**
- R. Fernandez-Patier, D. Galán D, S. Garcia Dos Santos, J. Santamaria Ballesteros **for Madrid**
- Pascal DeMulder and Sandrine Bladt **for Brussels**
- Ana Cabral, Pedro Ferraz de Abreu, Francisco Ferreira, Hugo Tente, Luisa Nogueira **for Lisbon**
- Matej Gregoric and Peter Otorepec **for Ljubljana**
- Emilia Niciu **for Bucharest**
- Martin Fitzpatrick, Anne Marie McCarten and Pat Goodman **for Dublin**



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In Collaboration with

- Institute for the Consumer, Presidency of the Council of Ministers, Portugal
- Dept. of Environmental Sciences and Engineering, New University of Lisbon, Portugal
- Regional Administration of Environment and Land Use Planning for Lisbon and Tagus Valley, Ministry of Cities, Land Use Planning and Environment, Portugal
- City Department for Environment and Green Spaces, Lisbon Municipality, Portugal
- Public Health Regional Center for Lisbon and Tagus, V. Ministry of Health, Portugal
- QUERCUS National Association for the Conservation of Nature, Portugal
- Research Center on Information Technology and Participatory Democracy (CITDEP), Portugal
- Institute of Public Health of the Republic of Slovenia. Slovenia
- Institute of Public Health Bucharest. Ministry of Health. Romania
- Ministry of Environment and Water management. Romania
- Institute of Health Carlos III. Ministry for the Health of the Consumer. Spain
- Dublin Institute of Technology, Ireland
- Dublin City Council, Ireland
- St. James Hospital, Dublin, Ireland