



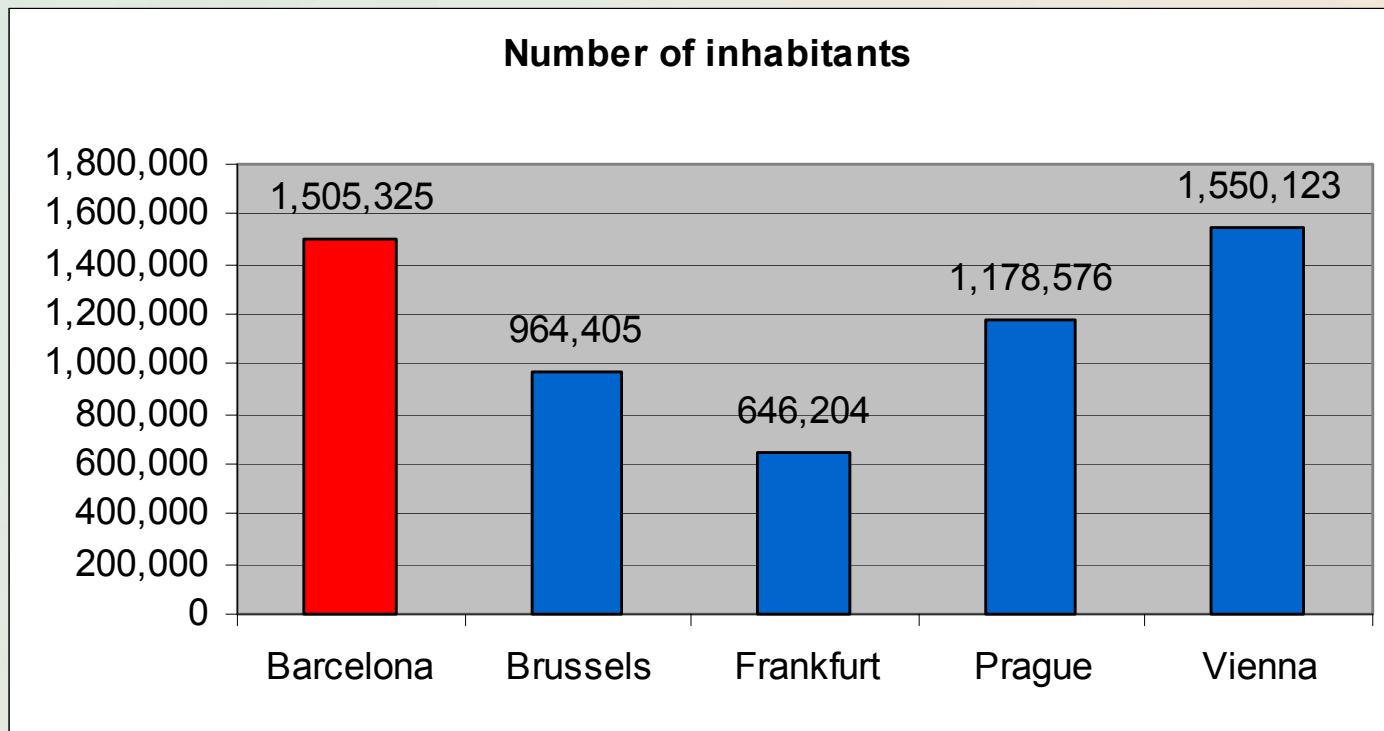
Pro-Active City Cleaning: Practice and Experiences from Barcelona

Carlos Vazquez
Cleansing and Waste Collection Service
Environment and Urban Services
Department Barcelona City Council



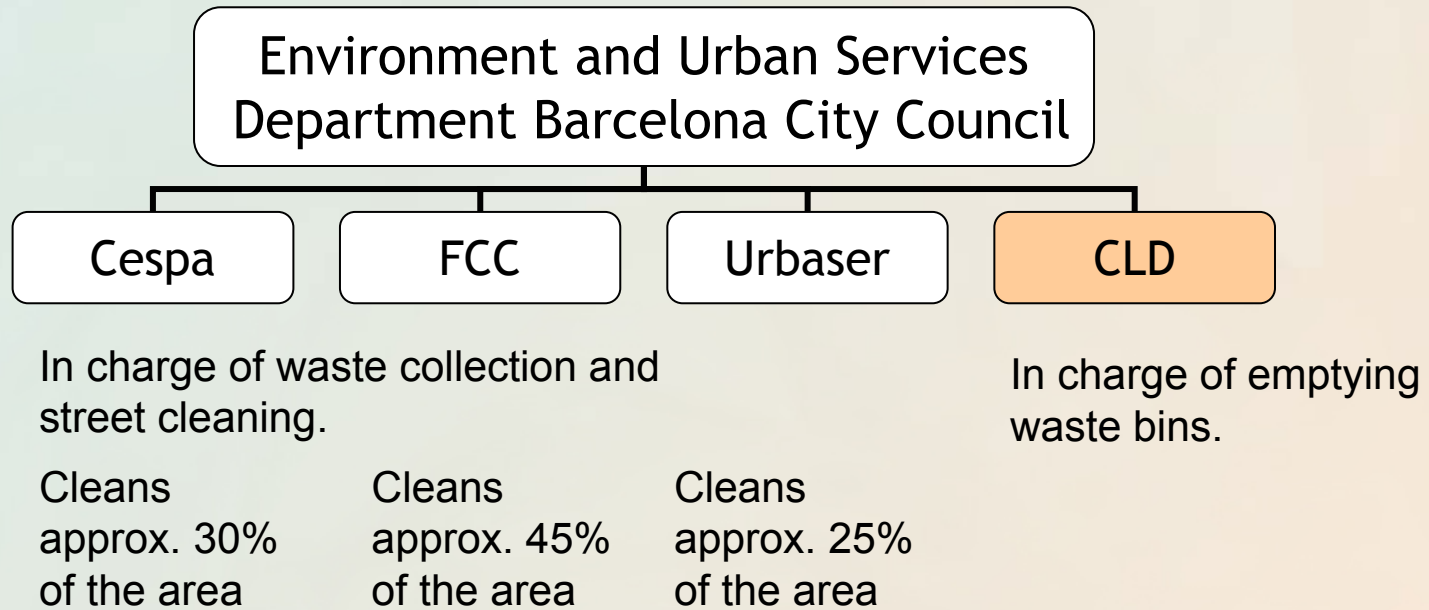
Barcelona - Facts and Figures

- 1,505,325 inhabitants
- 1,309,000 m roads
- 10.8 km² road area
- 5.6 km² sidewalks



As of 2001

Street Cleaning in Barcelona



Overview of Responsibilities

Area:	Yes	No	Sometimes
Public roads	X		
Expressways in urban area		X	
Roadside green			X (Takes care of it but is not responsible)
Sidewalks	X		
Pedestrian zones	X		
Railway stations		X	
Subway stations		X	
Municipal parks		X (Responsibility is with another department)	
Area around recycling containers	X		

Cleaning Services

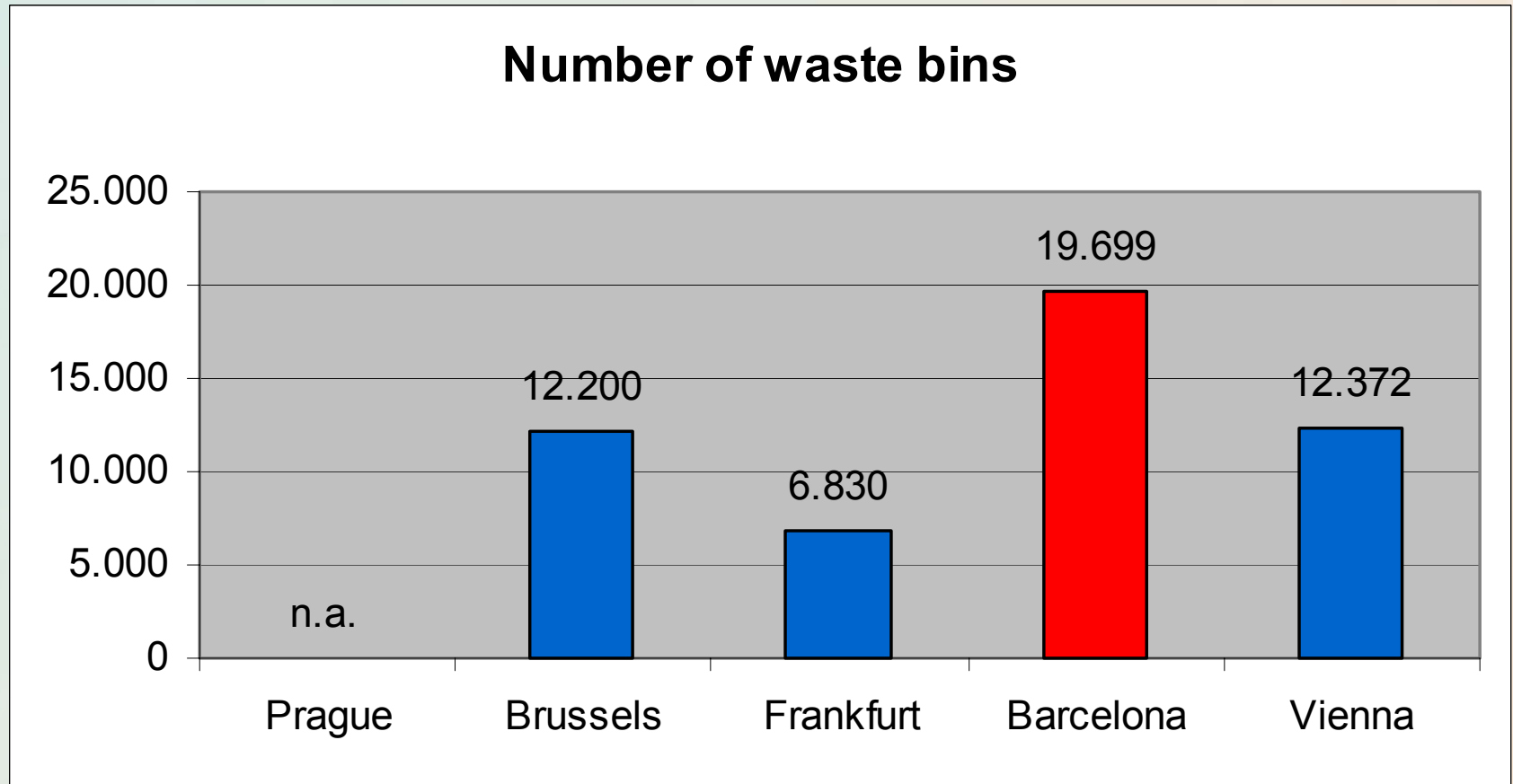
CLEANING SERVICES			
SERVICE Basic Treatments	Daily Teams	Work shift	Efficiency
Manual sweeping	152	Morning	2.4 to 3.5 km/day
Sweeping team with vans	40	Morning	8 to 12 km/day
Mechanical street sweeping	7	3 morning 4 night	25 to 35 km/day
Sweeping of pedestrian areas	10	Morning	9 to 10.5 km/day
Reinforcement sweeping	65	59 morning 6 night	8 to 11 km/day
Mixed wash down	42	35 morning 7 night	12 to 14 km/day
Manual wash down	12	5 morning 7 night	2.6 to 3.3 km/day
Mechanical wash down	5	Night	25 km/day
Mixed pressure wash down	45	25 morning 20 night	3 to 4 km/day
SERVICE Specific Treatments	Daily Teams	Work shift	Efficiency
Pet excrement collection	4	Morning	
Beach cleaning	9	Morning & night	
Dead animal collection	1	Morning	
Operation teams	14	Morning & afternoon	

BCNeta - Clean Barcelona!

- BC
 ➔ Barcelona
- Neta
 ➔ Clean



Data on Waste Bins



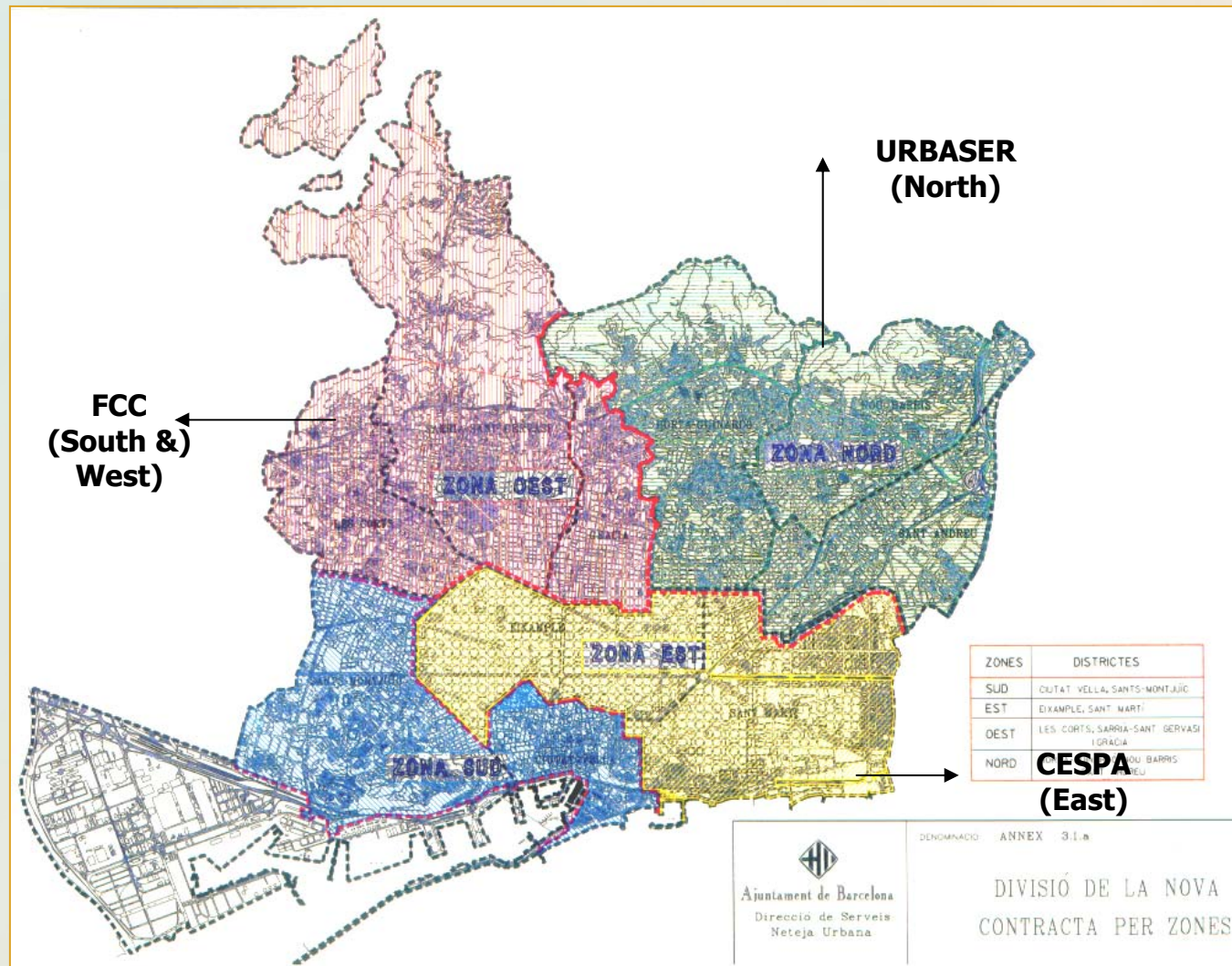
Special Focus of Barcelona:

Supervision and Planning of City Cleaning

- Waste and Cleaning responsibility by area
- Combination of different cleaning systems for a better quality
- Graffiti and flyposting
- Civic Agreement for a cleaner and sustainable Barcelona
- Quality Control (1): Citizens' evaluation
- Quality Control (2): Internal indicators
- Quality Control (3): International Survey



Waste and cleansing responsibility by area



Combination of Different Cleaning Systems for a Better Quality

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Graffiti and Flyposting



Number of teams	10
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Graffiti and flyposting	Added for 2002
Number of interventions	27.354
m ² cleaned	102.377

Civic Agreement for a Cleaner and Sustainable Barcelona

- Since 2000, it has been the joint commitment of the City Council and entities of the city to work together to make Barcelona cleaner and sustainable.
- Is a tool for participation and assignment of co-responsibility
- It makes for a better communication and understanding between City Council and entities

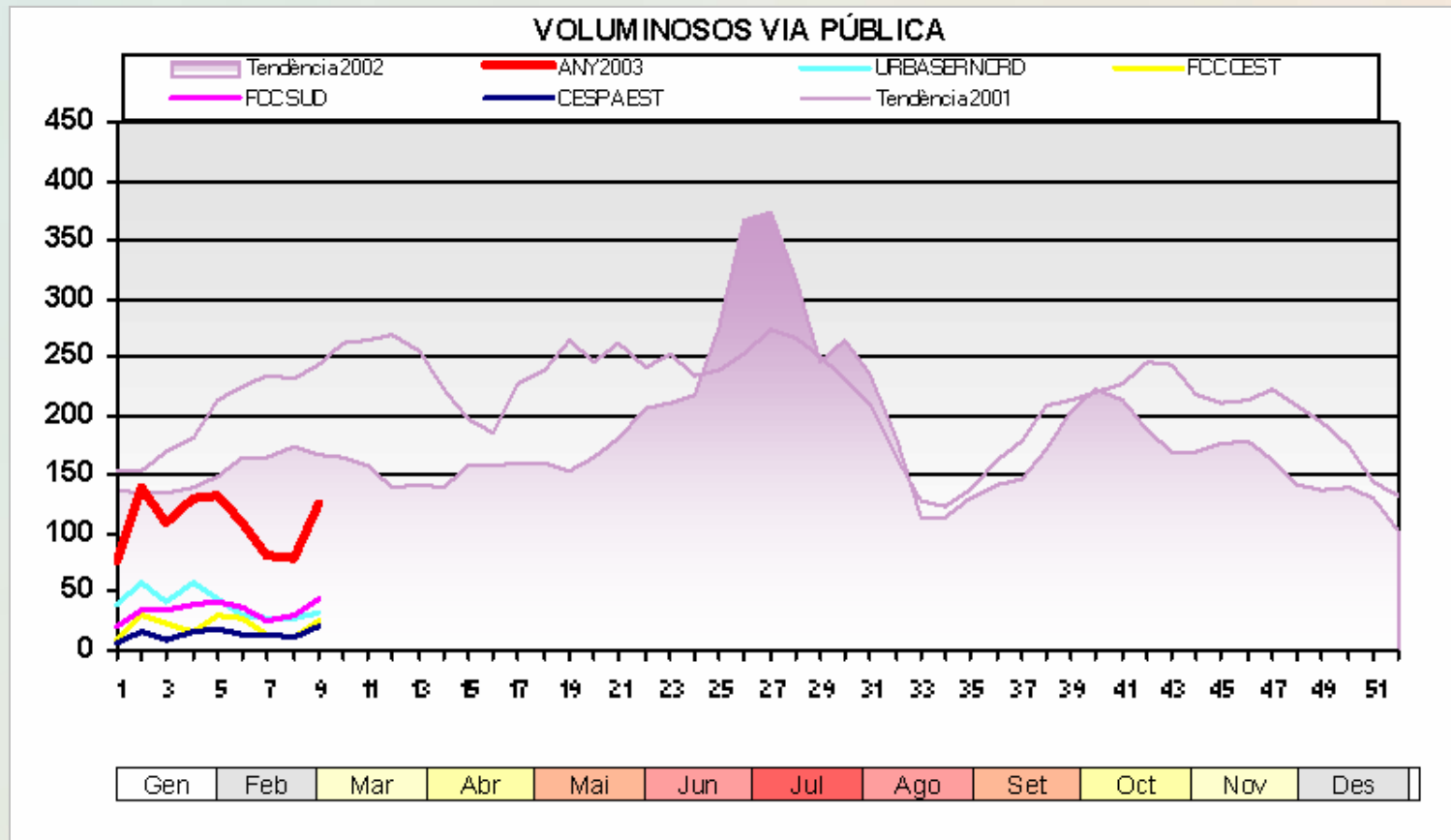
Results (2003)

77 signatories and 18 collaborators = 95 entities committed



Quality Control (1): Citizens' evaluation

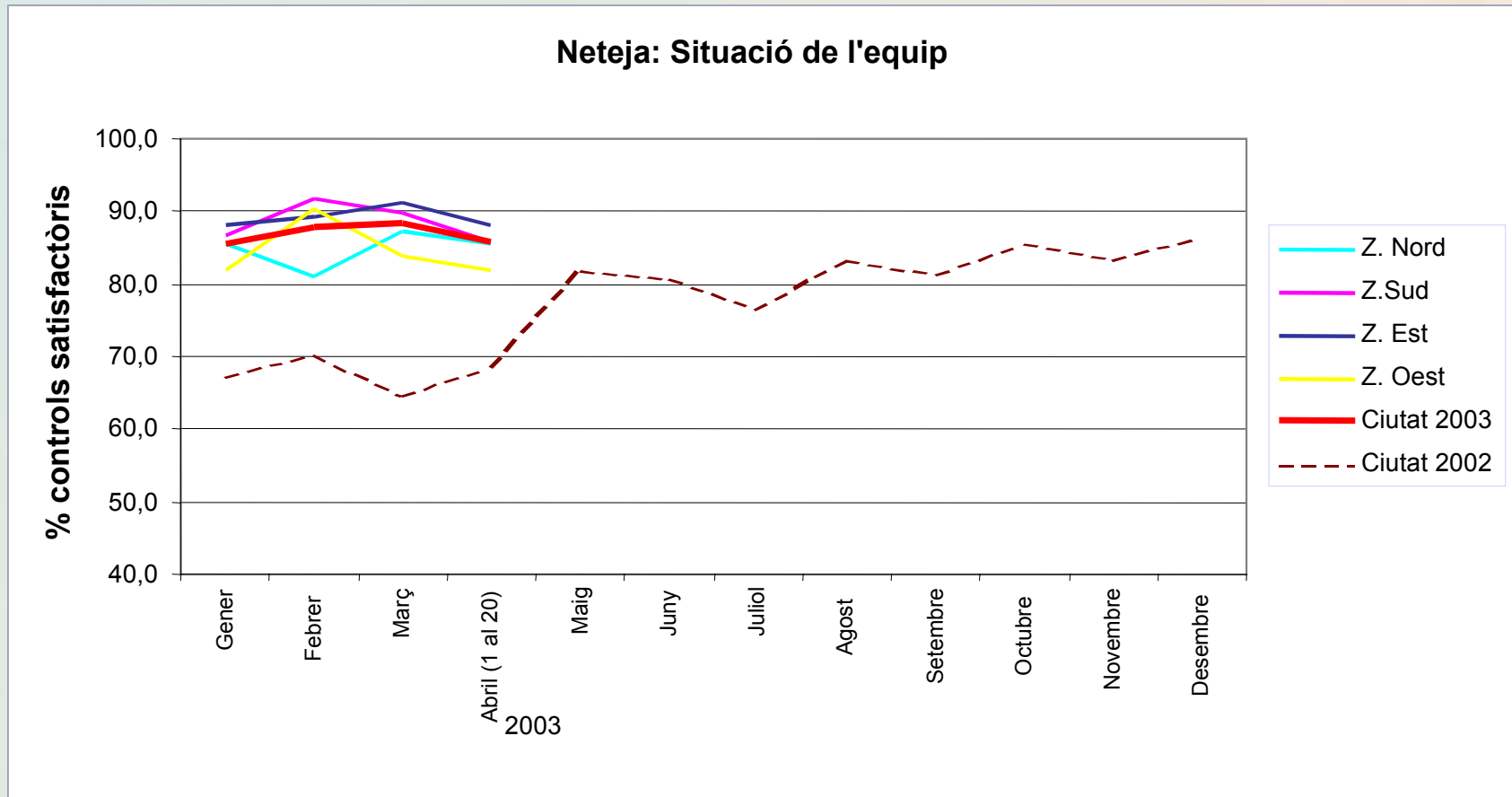
Citizens' phone calls (010) are monitored and analysed. As a result we obtain a weekly indicator system



Ex. bulky waste in streets => 2.500 calls/week

Quality Control (2): Internal Indicators

An external company is doing the daily quality control of the cleaning and waste collection equipment and service.



Quality Control (3): International Survey

	ALL AREAS (general areas au...)	(n... principals enclau...)	Sec... secundaris amb ...	(alta d... significativa de ... come...)	(residencial, poc o gens ús comercial)		Landscap... (parcs, zones d'oci, ...)	Sea F... (front litoral)
CLEANSING ISSUES (Neteja)								
Litter (deixalles sobre el paviment)								
Leaf fall (fulles d'arbres i altres materials derivats del verd urbà)								
Detritus (grava, terra i materials molt fins)								
CLEANSING RELATED ISSUES (aspectes relacionats amb la neteja)								
Weed growth (males herbes)								
Staining (taques al paviment)								
Flytipping (materials sòlids deixats al carrer sense cura ni ordre)								
Waste place out (residus fora del contenidor a la calçada i vorera)								
LITTER BINS (papereres)								
Condition (estat)								
Degree of fill (grau d'ompliment)								
WASTE BINS (contenidors)								
Condition (estat)								
Degree of fill (grau d'ompliment)								
STREET FURNITURE (mobiliari urbà)								
Posts & lamp posts (fanals i suports verticals)								
Public signs (senyalització pública)								
Private signs (senyalització privada)								
Buildings/boundary structures (edificis i altres estructures delimitadores)								



CLEANER CITIES - CLEANER ENVIRONMENT
From Littering to Producer Responsibility



ARA SYSTEM
Verpackung • Schutt • Sortieren • Recyceln

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Recycling - Sorteo - Reciclado - Reciclado

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Ajuntament  **de Barcelona**