

**FROM
STONE AGE
TO
DRONE AGE
IN
PARKING**

Ans Rietstra – City of the Hague

Milan, AIPARK CONFERENCE at CITYTECH

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CITY

SOCIETY & INDUSTRY



Fraude (public & staff)

Requirements of digital concept

Component based IT

Enforcement VRN-based (hybrid)

Digital permits (VRN-based)

Multi paymentprovider model

Parkingrights database

Enforcement by scanning car

2nd gen. parkingrights database

1^e PDM reduction (33%)

100% digital and VRN-based

Integration on&off street

Dynamic planning and pricing

VRN: Vehicle Recognition Number (License plate)

GSM payments

1st gen. VRN on PDM

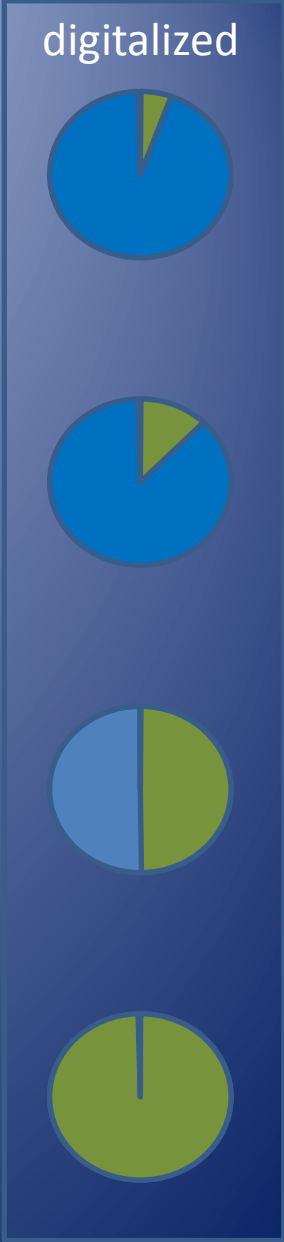
2nd gen. VRN-PDM

Smart phone

VRN-based rights mandatory

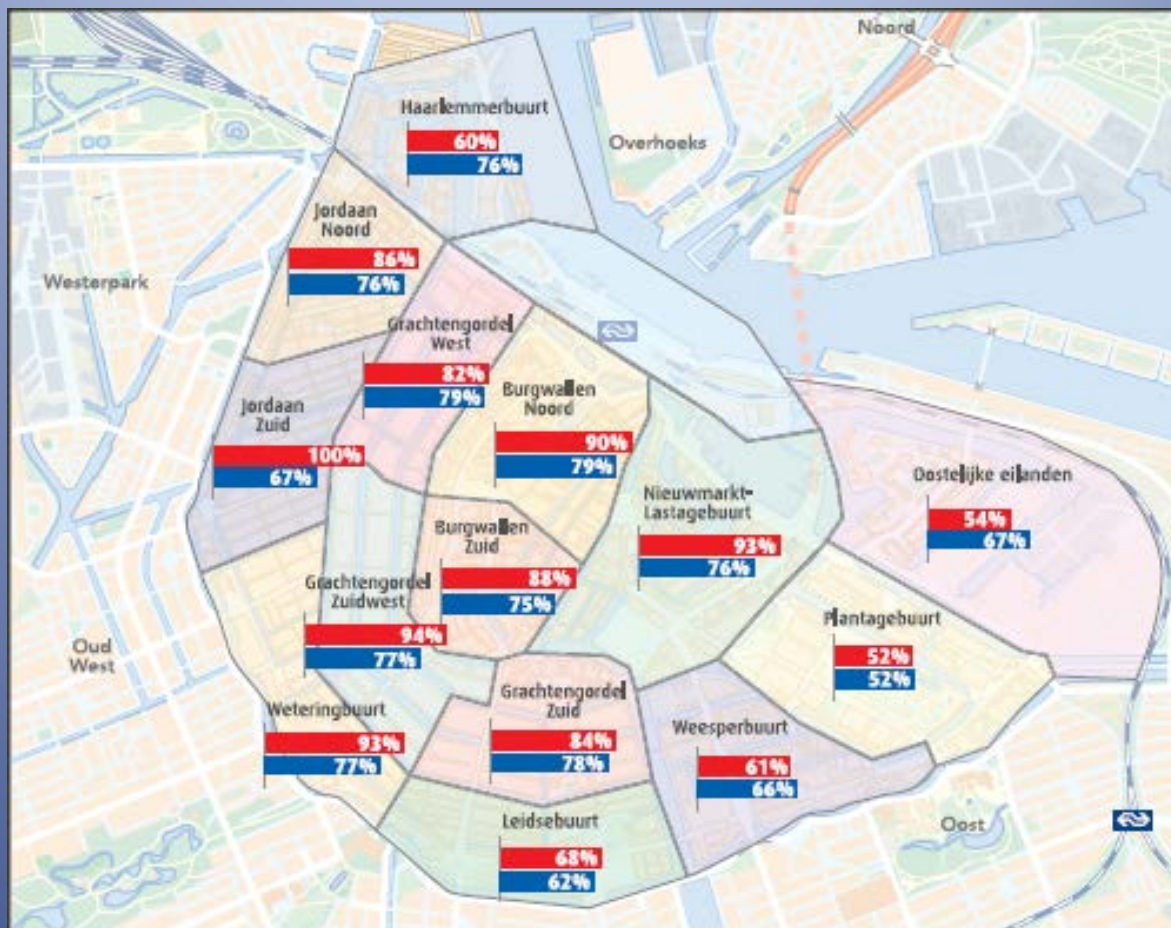
VRN-based access off-street

In car parking information



FACTSHEET AMSTERDAM

Residents Amsterdam	800.000					
Jobs	2.224.000					
Permits	147.000					
Parking places	150.000					
	2007	2008	2009	2010	2011	%
Places on street	117.400	127.772	133.042	158.552	148.066	26
Places off street					30.000	
Parking tickets					20.000.000	
Fines	383.319	394.269	405.358	485.780	487.172	27
	2007	2008	2009	2010	2.011	%
REVENUES PARKING x €1.000						
PDM	74.248	68.968	65.213	62.423	65.814	-11
Phone/apps	15.800	25.567	31.250	35.258	41.104	160
Permits	22.331	24.571	27.179	29.612	30.951	39
Fines	16.434	16.221	16.027	20.063	22.477	37
TOTAL	133.698	139.105	142.092	149.901	162.019	21
	2008	2013				
PRODUCTIVITY						
Scancars	0	6				
Operational costs	100%	60%				
Attendants / place	4/1000	1/1000				
	1990	2008				
TRAVEL KM FROM, TO AND IN AMSTERDAM / DAY						
Car	20.246.000	24.320.000				
Public Transport	10.846.000	16.612.000				
Bike	1.568.000	2.260.000				
TOTAL	32.660.000	43.193.000				
	1991	2008				
MODAL SPLIT						
Private car	39%	31%				
Public Transport	28%	22%				
Bike	33%	47%				



Parkeedruk 20:00 – 22:00 uur
 Gemiddelde bezettingsgraad
 geparkeerde auto's, bestelauto's
 en vrachtwagens

— 1997-1998
 — 2007-2008

Conclusie grafiek

- In veel gebieden is de parkeerdruk wat afgenomen

Lessons learned

- 'Best of breed' in stead of 'one stop shop'
- Explicit design principles for processes and ICT brought focus
- The parking industry proved to be conservative and we had to push hard on innovations
- Don't hire the parking payment providers: let them focus on consumers: they survive in making the difference
- Adapt to developments in society: we can stay one step behind in the use of social media but must be one step ahead in our management processes
- Keep away from physical stuff like tokens, barriers and sensors
- Respect the privacy of our citizens

From stone age to drone age

- In 10 years time we came from problem solving to the stage where we have the means in processes and technology to shape our urban mobility and adapt much faster on changes
- We want to share knowledge for enhancing parking processes in a network of cities
 - and infrastructure for pilots (database and pdm's)