

# Supplementary material (617)

## 1 Barcelona’s additional information

Table 1 completes the list of Sants’ proposals from our experiments section (in the paper we simply refer to this district as Sants, although the complete official name is Sants Montjuïc).

# $p$	Proposal description	Promoted Values	$al(p)$	$cost(p)$	$vot(p)$
$p_1$	Improve Espanya Industrial park	Ecology	0.11943	0.85	3351
$p_2$	Reform minority sports camp	Sport	0.01356	1.6	2890
$p_3$	Pedestrianise old Sants	Social Welfare	0.1952	0.2	2483
$p_4$	Mountain improvement	Ecology	0.11943	0,85	2413
$p_5$	Rebuild Can Climent for culture	Culture	0.07949	1	2192
$p_6$	Renew vegetation & children’s area in La Farga	Ecology, Equality	0.11943+0.18997= 0.3094	0.535	2132
$p_7$	Towards superblock in Sants	Ecology	0.11943	0.55	2004
$p_8$	Citizen usage Fab. Germ. Climent	Social Welfare	0.19520	0.3	1927
$p_9$	Led screens in sport facilities	Sport	0.01356	0.07	1824
$p_{10}$	Community build at Petita Maria	Social Welfare	0.19520	0.122	1804
$p_{11}$	Make visible Jewish cemetery	Culture	0.07949	0,05	1671
$p_{12}$	Pedestrianise Constitució st.	Social Welfare	0.1952	0.4	1626
$p_{13}$	Citizens at passage Vapor Vell	Social Welfare	0.1952	0.3	1590
$p_{14}$	Green yard at Jacint Verdaguer	Ecology	0.11943	0.2365	1445
$p_{15}$	Redevelop Teodoro Massini st.	Social Welfare	0.19520	1.2	1232
$p_{16}$	Reform Walter Benjamin gardens	Ecology	0.11943	0.3	1212
$p_{17}$	Changing rooms at Bosc de Montjuïc	Sport	0.01356	0.275	1083
$p_{18}$	Redevelop Joan Corrades Sq.	Social Welfare	0.19520	1.3	790
$p_{19}$	Reform Feliu Casanova St.	Social Welfare	0.19520	0.588	518

Table 1: The related values, alignment  $al(p)$ , cost (in M€), and votes for the proposals from Barcelona’s Sants Montjuïc district. Proposals are numbered in decreasing order of  $vot(p)$ .

## 2 Warsaw information

The participatory budgeting process in Warsaw is similar to that of Barcelona (see [1] for a more detailed explanation).

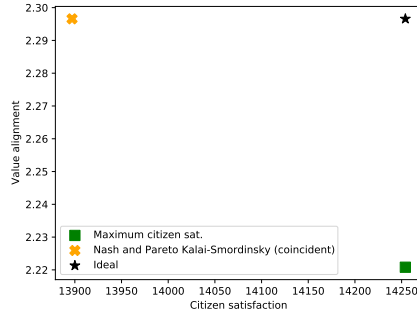
Table 2 shows Warsaw’s spending in each category and the value relevance they suppose. We calculate the spending in each value by adding the spending in related categories in Warsaw’s budget [2], for example, the spending in the value Welfare is derived from the spending in “Social assistance”, and “Other tasks in the sphere of social policy”.

Warsaw's total spending: 14247.0647Mzł		
Value	Spending (Mzł)	Relevance $r(v)$
Urban greenery	77.8249	0.00546
Sport	244.4845	0.01716
Public space	1680.6357	0.11796
Public transit and roads	4503.2608	0.31608
Environmental protection	1324.8405	0.09299
Education	4708.721	0.33050
Culture	628.3685	0.04411
Welfare	711.599	0.04995
Health	367.3298	0.02578

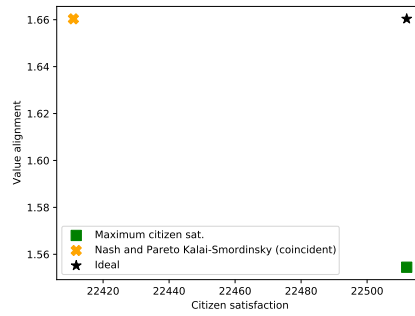
Table 2: Spending of Warsaw's government in each value (quantities in million Złoty). Data from [2]. The total spending only considers categories related to values.

### 3 Barcelona's participatory budget plots

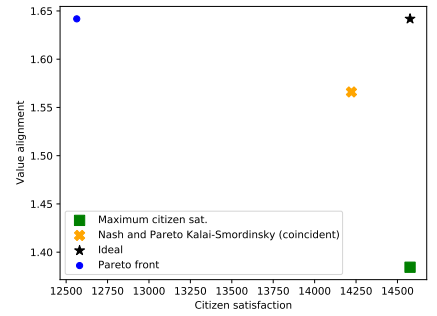
Figure 1 depicts the results for the 10 processes/districts in Barcelona.



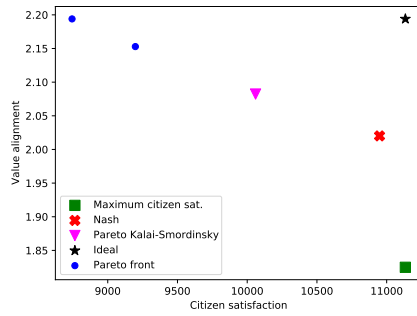
(a) Ciutat Vella



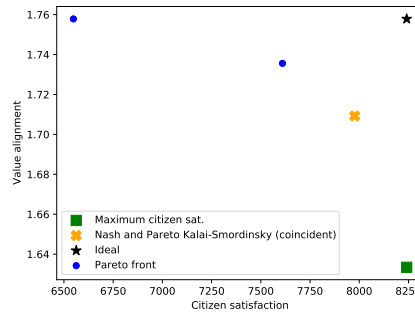
(b) Eixample



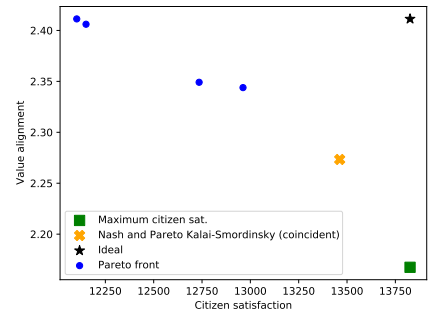
(c) Gracia



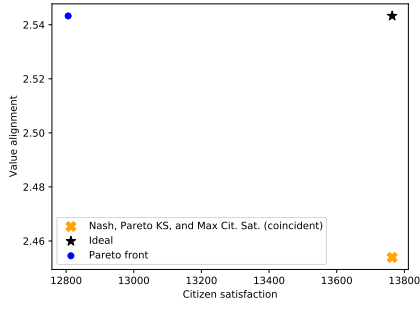
(d) Horta Guinardó



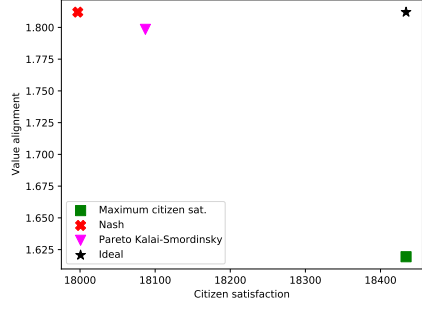
(e) Les Corts



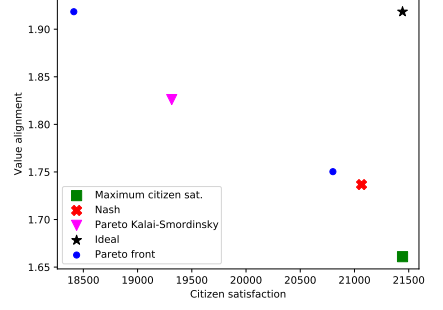
(f) Nou Barris



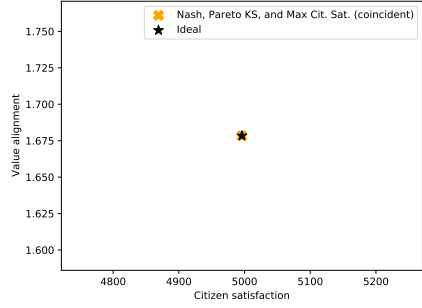
(g) Sant Andreu



(h) Sant Martí



(i) Sants

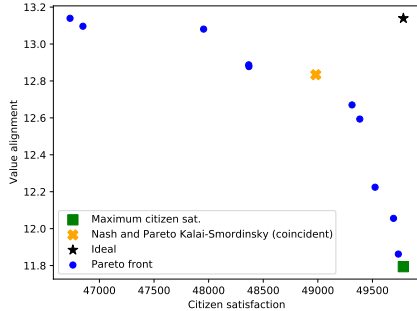


(j) Sarria

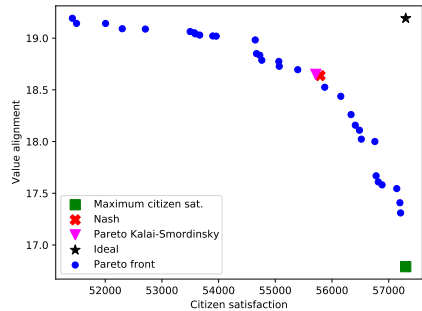
Figure 1: Results for the 10 processes in Barcelona.

## 4 Warsaw's participatory budget plots

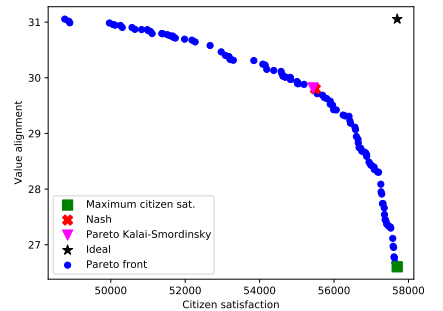
Figure 2 depicts the results for the 19 processes in Warsaw.



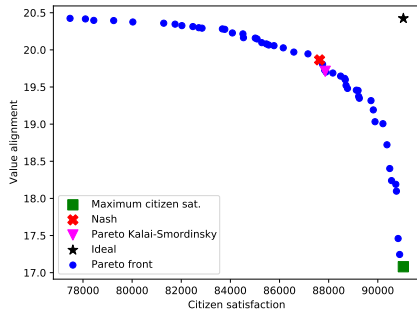
(a) Bemowo



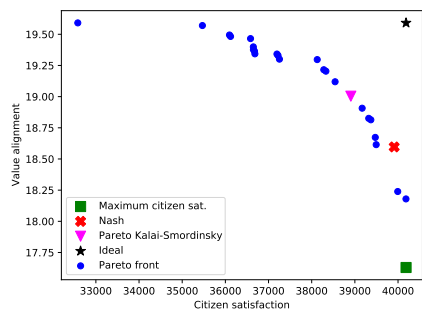
(b) Białołęka



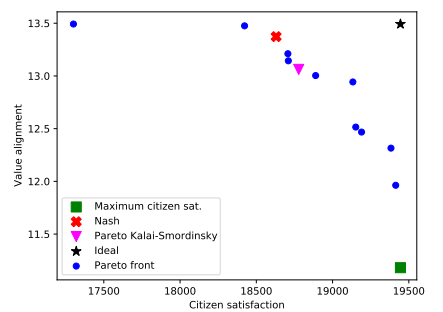
(c) Bielny



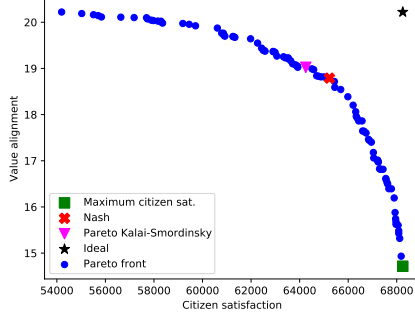
(d) Mokotów



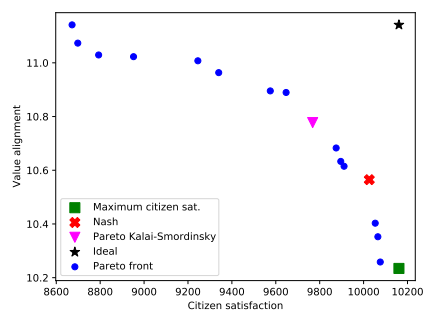
(e) Ochota



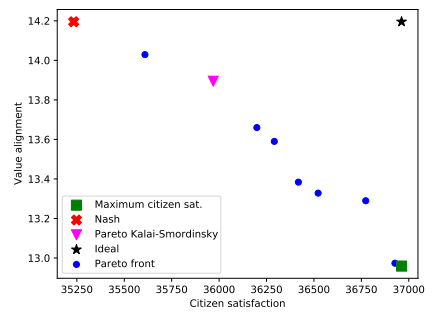
(f) Praga-Północ



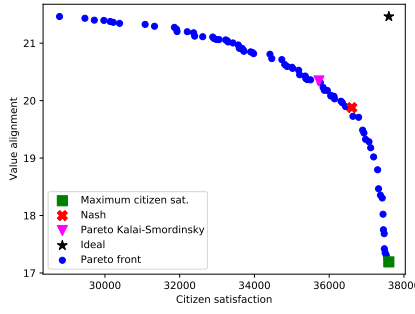
(g) Praga-Południe



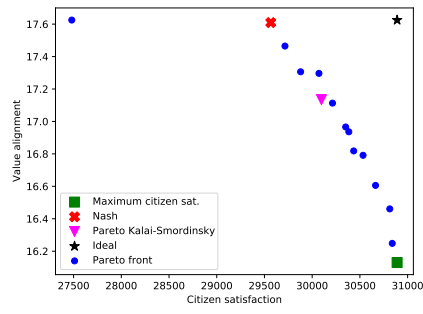
(h) Rembertów



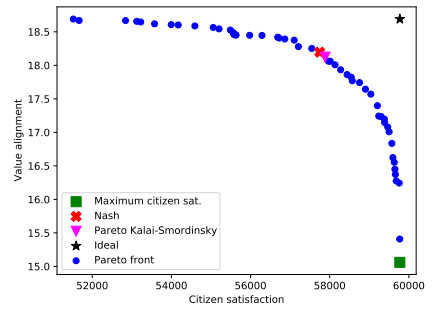
(i) Śródmieście



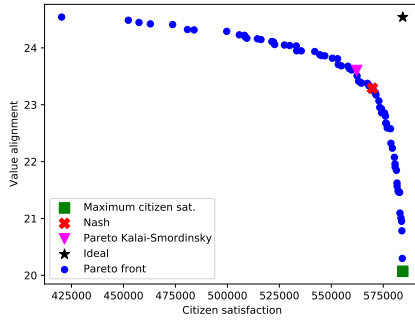
(j) Targówek



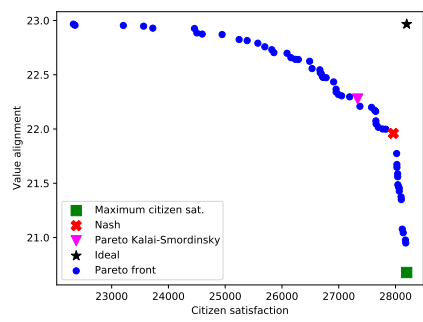
(k) Ursus



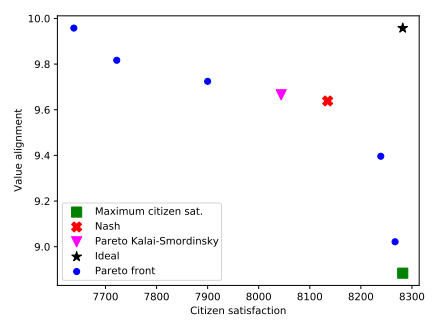
(l) Ursynów



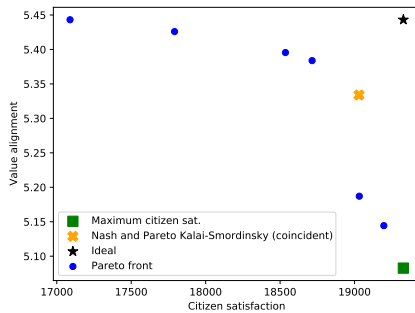
(m) Warsaw city-wide



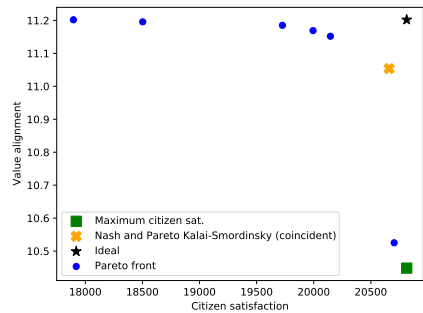
(n) Wawer



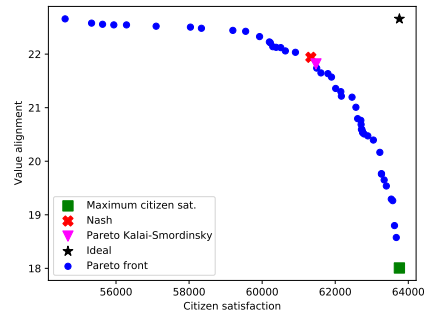
(o) Wesoła



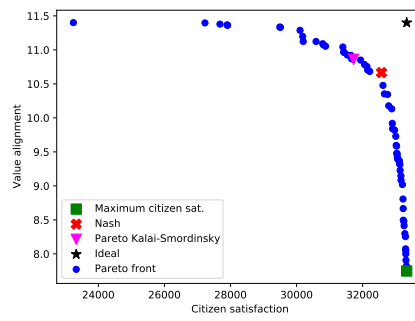
(p) Wilanów



(q) Włochy



(r) Wola



(s) Żoliborz

Figure 2: Results for the 19 processes in Warsaw (18 district level and the city-wide processes).

## References

- [1] Participedia. The case of Warsaw participatory budget. <https://participedia.net/case/7815>, 2021.
- [2] Warsaw's statistical office. Public finances of the city of warsaw in 2021. <https://warszawa.stat.gov.pl/en/information-about-voivodship/capital-of-voivodship/public-finance/>, 2021. Accessed August 2023.