

Public support for limiting through-traffic and reallocating public space in four residential neighborhoods in Berlin and its correlates: Results from the KlimaKieze survey

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Abstract

Limiting through-traffic and reallocating public space in residential neighborhoods may benefit health and sustainability, yet evidence on public support for such measures is limited. We assessed support for 13 specific measures and neighborhood, mobility, sustainability and sociodemographic correlates in a survey of 1,480 adults from four residential neighborhoods in Berlin. Support was assessed with Likert-scaled items, and associations were examined using linear regression. Support was moderate to high for all measures (61–88%). It was positively associated with active mobility, connectedness to nature, and children in the household, and negatively with car use, and age.

Keywords

Kiezblock, Superblock, low traffic neighborhood, traffic calming, reallocation of public space, public support, urban health, planetary health, sustainability, mobility

1. Questions

Measures that limit motorized through-traffic in residential neighborhoods can improve traffic safety, promote active travel, improve air quality, and reduce traffic noise, thereby supporting health and wellbeing of urban populations (Brown, Moodie, & Carter, 2017; Cash-Gibson et al., 2024; Mueller et al., 2020). Such measures are central components of Superblocks in Barcelona, Low-Traffic Neighborhoods in London, and Kiezblocks in Berlin (Mueller et al., 2020; Tiran et al., 2025; Xiao et al., 2023). They typically involve redirecting through-traffic using interventions such as diagonal barriers, one-way streets, or school zones, and extend to the reallocation of public space previously used for motor traffic to improve local social and environmental conditions, for example through the creation of pedestrian zones, or green spaces (hereinafter *Superblock measures*; Nieuwenhuijsen et al., 2024; Tiran et al., 2025). Although these measures are relatively low-cost (Rammert & Hausigke, 2026) and effective (Pérez et al., 2025), their implementation remains contested (Klaever, Goetting, & Jarass, 2024; Marken, Füller, & Haase, 2026), potentially hindering policymakers and municipal administrations from implementing transformational transport policies (Gärling & Schuitema, 2007).

Initial evidence suggests that public support for Superblock measures is broader than indicated by public discourse or media coverage (Knie & Pfaff, 2025; Traxler & Wegrich, 2023). To inform the political debate as well as the evidence-based planning and implementation of Superblock measures in municipalities, we aimed to assess public support for a comprehensive set of commonly implemented measures among residents from residential neighborhoods in Berlin, Germany. In addition, we examined associations between public support and potential neighborhood, mobility, sustainability, and sociodemographic correlates based on hypotheses derived from previous research on factors influencing support for similar interventions (Bergquist et al., 2022; Ejelöv & Nilsson, 2020; Schreibmüller et al., 2025).

2. Methods

We conducted a survey in four residential neighborhoods between September 2024 and May 2025. Two neighborhoods had planned Superblock measures (Nördliche Luisenstadt, Antonkiez), while two did not (Stephankiez, Westfälisches Viertel). Neighborhoods without planned Superblock measures were selected based on their comparability to the neighborhoods with planned measures in terms of built environment, size, and environmental exposure, including noise and air pollution. A random sample of 10,657 residents aged ≥ 18 years was drawn from the citizens' register and invited to complete the survey online or on paper in German, English, Turkish, Arabic, or Russian. A single reminder letter was sent to non-respondents to encourage participation. A total of 1,480 citizens returned completed surveys (response rate 13.9%). Surveys with $>80\%$ item completion were considered complete (The American Association for Public Opinion Research, 2023).

Participants rated 13 Superblock measures on a six-point Likert scale ranging from “extremely negative” to “extremely positive” (see Figure 1 and Supplement 1). The items were formulated to explicitly reflect both loss and gain framings. The measures were developed collaboratively by a transdisciplinary research team, drawing on previous research (e.g., Knie & Pfaff, 2025), the authors' own observations, and practical input from municipal administrations, with the aim of capturing a broad range of Superblock measure combinations implemented across different neighborhoods.

In addition, participants provided information on several potential correlates (see Supplement 1). Satisfaction with the neighborhood and restricted mobility due to physical limitations were investigated using single items adapted from previous studies (Ruhrort, Zehl, & Salomo, 2024; Umweltbundesamt, 2020). Active mobility was assessed using the transport-related physical activity indicator of the EHIS-PAQ (Finger et al., 2015). Car use was categorized as *rarely or never* versus *at least once a month*. Connectedness to nature was assessed using the CN-12 (range: 1–7), with higher scores indicating greater connectedness to nature (Hatty et al., 2020). Political orientation was categorized based on stated party preference in a hypothetical federal election (see Supplement 1). Migration background was defined as the respondent or at least one parent being born outside Germany. Equivalized disposable income was calculated in accordance with standard guidance (Eurostat, 2021), using the midpoint of income categories to estimate monthly disposable income (in Euro). In addition, we assessed gender, age, and the presence of children in the household.

We analyzed support for Superblock measures descriptively and fitted a multiple linear regression model to examine associations between overall support and potential correlates. Overall support was operationalized as the mean score across all 13 items (range: 1–6), calculated when at least 10 items were completed. Higher scores indicate greater support for the Superblock measures. As 363 of the 1,480 surveys had missing data for at least one variable included in the multiple linear regression, missing values were imputed using Multiple Imputation by Chained Equations (MICE) in Stata (Version 19.5). Logistic regression was used to impute categorical variables, and Predictive Mean Matching (PMM) was used for continuous variables. Missing values were assumed to be Missing at Random (MAR). The imputation model included all variables in the regression model as well as key predictors, including education, family status, outdoor time, main mode of transport, health-related restrictions in daily life, relationship with nature, and relationship with neighbors. Twenty imputed datasets

were generated using 10 iterations between imputations to ensure convergence. Regression estimates and standard errors were pooled according to Rubin's rules. Diagnostic checks indicated satisfactory convergence and stability of the imputation process. Results from the imputed datasets were largely consistent with those from a complete-case analysis and from analyses in which the dependent variable was not imputed. As a further sensitivity analysis, we repeated the multiple linear regression excluding equivalized disposable income because of the high proportion of missing data (19.6%), which yielded similar results (see Supplement 3). Therefore, only the results from the fully imputed regression model including equivalized disposable income are presented. Reporting followed the STROBE guidelines (Vandenbroucke et al., 2007).

3. Findings

Sample characteristics are presented in Table 1. Although the sample was broadly comparable to official statistics regarding age and gender, individuals with Green party preferences were overrepresented (44% vs 27%), whereas those with centrist or right-wing preferences (28% vs 48%) and residents with migration background were underrepresented (Amt für Statistik Berlin-Brandenburg, 2025, 2026). Together with the relatively low response rate, these differences indicate the potential for non-response bias and should be considered when interpreting the findings. In addition, data collection was limited to four neighborhoods in Berlin, which may affect generalizability to other urban contexts.

Table 1: Sample characteristics

		Participants with completed survey ^c (N = 1,480)	Analytic sample ^d (n = 1,480)
Overall support for		4.4 (± 1.3)	4.4 (± 1.3)
Superblock measures (range: 1-6) ^a	<i>Missing</i>	9	-
Potential correlates			
Satisfaction with neighborhood ^b	Very satisfied	359 (24.3)	359 (24.3)
	Somewhat satisfied	757 (51.2)	758 (51.2)
	Neither nor	235 (15.9)	236 (15.9)
	More unsatisfied	112 (7.6)	112 (7.6)
	Very unsatisfied	15 (1.0)	15 (1.0)
	<i>Missing</i>	2	-
Active mobility (in MET/hours per week) ^a		22.9 (± 20.0)	22.9 (± 19.9)
	<i>Missing</i>	47	-
Restricted mobility ^b	No	1,316 (89.3)	1,319 (89.1)
	Yes	158 (10.7)	161 (10.9)
	<i>Missing</i>	6	-

Car use ^b	Rarely or never	811 (55.9)	828 (56.0)
	At least once a month	640 (44.1)	652 (44.0)
	<i>Missing</i>	29	-
Connectedness to nature (range: 1-7) ^a		5.4 ($\pm$ 1.1)	5.4 ($\pm$ 1.1)
	<i>Missing</i>	2	-
Political orientation ^b	The Left	192 (13.3)	197 (13.3)
	Social Democratic Party	133 (9.2)	138 (9.3)
	Alliance 90/The Greens	468 (32.4)	476 (32.2)
	Christian Democratic Union/Christian Social Union	111 (7.7)	115 (7.8)
	Free Democratic Party	30 (2.1)	32 (2.1)
	Alternative for Germany	18 (1.3)	19 (1.3)
	Other parties	111 (7.7)	113 (7.7)
	I don't vote / I am not eligible to vote	119 (8.2)	122 (8.2)
	I do not want to disclose	261 (18.1)	268 (18.1)
	<i>Missing</i>	37	-
Gender ^b	Male	681 (47.0)	696 (47.1)
	Female	748 (51.6)	761 (51.4)
	Diverse	21 (1.4)	23 (1.5)
	<i>Missing</i>	30	--
Age ^b	18-26 years	77 (5.4)	78 (5.3)
	27-44 years	651 (45.2)	665 (44.9)
	45-54 years	210 (14.6)	215 (14.5)
	55-64 years	271 (18.8)	281 (19.0)
	$\geq$ 65 years	230 (16.0)	241 (16.3)
	<i>Missing</i>	41	-
Migration background ^b	No	1,062 (72.5)	1,073 (72.5)
	Yes	403 (27.5)	407 (27.5)
	<i>Missing</i>	15	-
Equivalized disposable income (in Euro) ^a		3,218.6 ($\pm$ 2,172.3)	3,197.4 ($\pm$ 2,141.9)
	<i>Missing</i>	290	-
Children in household ^b	No	1,063 (76.8)	1,144 (77.3)
	Yes	322 (23.2)	336 (22.7)
	<i>Missing</i>	95	-
Neighborhood ^b	Stephankiez	437 (29.5)	437 (29.5)

Nördliche Lusenstadt	547 (37.0)	547 (37.0)
Westfälisches Viertel	356 (24.0)	356 (24.0)
Antonkiez	140 (9.5)	140 (9.5)
Missing	0	-

^a Mean (SD); ^b No. (%); ^c Surveys were considered complete if more than 80% of items were answered; ^d The analytic sample comprised all participants with complete or imputed data. MET, metabolic equivalent; SD, standard deviation.

Public support was moderate to high across all Superblock measures (61-88%; Figure 1). Because public support varied by political party preference (see Supplement 2), the overrepresentation of participants with Green party preferences may have affected the estimated support levels and should be considered when interpreting the findings. Suitable neighborhood-level weights for post-stratification weighting were not available, and city-level weighting would not have adequately accounted for variation in voting patterns across neighborhoods. Consequently, no post-stratification weighting was performed.

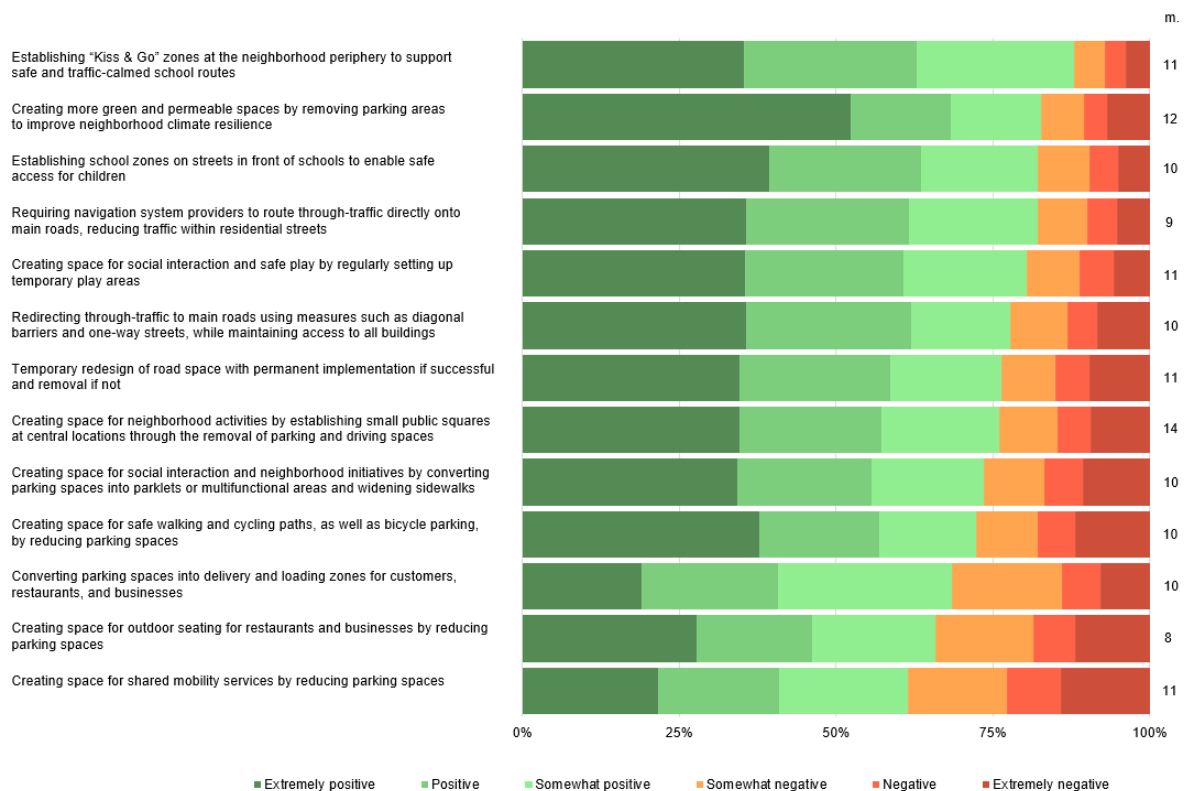


Figure 1: Public support for 13 Superblock measures across four residential neighborhoods in Berlin (n=1,480). Missing values are displayed to the right of each bar. The figure contains abbreviated item texts, full item texts are provided in Supplement 1.

The regression model explained approximately 43.9% of the variance in overall support (Table 2). It was positively associated with active mobility, connectedness to nature and children in the household. In contrast, it was negatively associated with car use, political orientation (with highest support among those with a left or green orientation), and age.

Table 2: Associations between overall support for Superblock measures and potential correlates

		n	β (95% CI)	p-value
Satisfaction with neighborhood	Very satisfied (Ref.)	359		
	Somewhat satisfied	758	0.16 (0.03; 0.28)	0.012
	Neither nor	236	-0.02 (-0.19; 0.14)	0.786
	More unsatisfied	112	0.02 (-0.19; 0.23)	0.877
	Very unsatisfied	15	0.17 (-0.33; 0.68)	0.499
Active mobility (in MET/hours per week)		1,480	0.00 (0.00; 0.01)	0.002*
Restricted mobility	No (Ref.)	1,319		
	Yes	161	-0.15 (-0.32; 0.02)	0.077
Car use	Rarely or never (Ref.)	828		
	At least once a month	652	-0.94 (-1.05; -0.83)	<0.001*
Connectedness to nature (range: 1-7)		1,480	0.21 (0.17; 0.26)	<0.001*
Political orientation	The Left (Ref.)	197		
	Social Democratic Party	138	-0.44 (-0.67; -0.22)	<0.001*
	Alliance 90/The Greens	476	0.15 (-0.01; 0.32)	0.073
	Christian Democratic Union/Christian Social Union	115	-1.13 (-1.36; -0.89)	<0.001*
	Free Democratic Party	32	-1.22 (-1.60; -0.84)	<0.001*
	Alternative for Germany	19	-1.52 (-1.99; -1.06)	<0.001*
	Other parties	113	-0.59 (-0.81; -0.36)	<0.001*
	I don't vote / I am not eligible to vote	122	-0.48 (-0.72; -0.23)	<0.001*
	I do not want to specify	268	-0.71 (-0.89; -0.53)	<0.001*
Gender	Male (Ref.)	696		
	Female	761	-0.09 (-0.19; 0.02)	0.102
	Divers	23	0.04 (-0.38; 0.46)	0.855
Age (in years)		1,480	-0.01 (-0.01; -0.01)	<0.001*
Migration background	No (Ref.)	1,073		
	Yes	407	-0.03 (-0.15; 0.10)	0.699
Equivalized disposable income (in Euro)		1,480	0.00 (0.00; 0.00)	0.858
Children in household	No (Ref.)	1,144		
	Yes	336	0.36 (0.23; 0.48)	<0.001*
Neighborhood	Stephankiez (Ref.)	437		
	Nördliche Luisenstadt	547	-0.04 (-0.17; 0.08)	0.494

Westfälisches Viertel	356	-0.03 (-0.17; 0.11)	0.666
Antonkiez	140	-0.02 (-0.21; 0.17)	0.845

Regression coefficients (β) and 95 % confidence intervals (CI) were estimated using the fully imputed multiple linear regression model. MET, metabolic equivalent.

Substantial public support for Superblock measures, even when potential losses (e.g., reduced parking spaces) were explicitly framed, suggests that societal polarization around measures promoting healthier and more sustainable mobility systems may be lower than often assumed, consistent with previous findings (Knie & Pfaff, 2025; Lanzendorf, Baumgartner, & Klinner, 2023). Measures with particularly high support, such as those that create green spaces and improve safety, especially for schoolchildren, represent potential quick wins for policymakers and municipal administrations. Prioritizing their implementation can deliver tangible short-term benefits to residents, potentially fostering broader acceptance of comprehensive future mobility transitions (Rammert & Hausigke, 2026) and improving electoral outcomes for parties supporting such transitions (Marquet, Fernández Núñez, & Maciejewska, 2024). At the same time, variation in support by mobility behavior and other characteristics of residents (Lanzendorf, Baumgartner, & Klinner, 2023), and lower support for some measures (e.g., repurposing parking spaces for sharing services), underscores the need for targeted communication and participatory approaches (Schreibmüller et al., 2025).

Ethics approval

The study was approved by the Medical Ethics Review Board of the Medical Faculty Mannheim, Heidelberg University (2022-636). All participants provided written informed consent prior to participation.

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Conflicts of interest

Nicole Lünow, Andrea Sarafoglou and Michael Eichinger have no conflicts of interest to declare. Dirk von Schneidemesser served as a Board Member of *Changing Cities e.V.* from 2018-2022, a non-governmental organization that promotes climate action, traffic calming and the reallocation of public space, for example through protests or support of local Kiezblock initiatives. Immo Janssen is a mobility planner collaborating with the Berlin-Mitte district and a member of *Changing Cities e.V.*, where he also serves in an advisory capacity. Luis Nacken is a member of The Left, a political party that supports the implementation of Kiezblocks in Berlin and related approaches to sustainable urban transformation in Germany.

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