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Yatish Arya, Ashoka University
Anisha Garg, University of Warwick

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Civic Infrastructure and Political Mobilization: Evidence from Urban India*

Yatish Arya† Anisha Garg‡

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Abstract

Can civic infrastructure shape political competition? We study public parks in Delhi, combining electoral returns with novel data on the RSS, a Hindu nationalist organization closely associated with the BJP. Using predetermined recreational land allocations from the 1962 Master Plan as an instrument for park access, we find that a one-standard-deviation increase raises the BJP-led alliance's (BJP+) vote share by 1.92 percentage points and increases RSS presence. Yet this advantage is not fixed: across four Delhi elections from 2008 to 2020, the relationship between park access and BJP+ vote share is positive in three but weakens sharply in 2013, when the park-related advantage shifts toward the Aam Aadmi Party (AAP), which emerged from an anti-corruption movement that mobilized through public spaces. The findings suggest that civic infrastructure lowers the spatial costs of political organization, benefiting actors able to mobilize through it.

JEL Codes: H41, D72, O18, Z12.

Keywords: Civic Infrastructure, Political Mobilization, Elections, Urban Economics, Collective Action, Cultural-Religious Organizations.

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†Department of Economics, Ashoka University, India (email: yatish.arya@ashoka.edu.in)

‡Department of Economics, University of Warwick, UK (email: anisha.garg@warwick.ac.uk)

1 Introduction

A large literature in political economy treats public infrastructure as an outcome of politics, studying how electoral institutions, political representation, and political favoritism shape the provision and spatial allocation of public goods (Lizzeri and Persico, 2001; Chattopadhyay and Duflo, 2004; Burgess et al., 2015; Narasimhan and Weaver, 2024). Yet infrastructure may also shape the capacity to engage in politics. Grassroots organization requires places where activists can meet, recruit participants, and coordinate activities, a particularly salient issue in space-constrained urban settings. By determining where these interactions can occur, the built environment may create persistent spatial differences in the capacity for political organization. Urban-planning decisions that appear technocratic can therefore influence subsequent political competition. This paper asks whether civic infrastructure functions as an input into political mobilization.

Civic infrastructure can affect electoral outcomes through two broad channels. The first is mobilization: accessible public space can lower the costs of recruiting participants, coordinating activities, and maintaining local political organizations. The second is residential sorting: neighborhoods with better civic amenities may attract residents with particular socioeconomic characteristics or political preferences. Separating these channels empirically is difficult. We therefore combine evidence on electoral outcomes with direct measures of grassroots organizational activity and protest locations, and examine changes in the partisan relationship with parks over time. Together, these patterns allow us to assess whether civic space facilitates political mobilization rather than merely reflecting stable differences in who lives near it.

We study this question in Delhi, India. Neighborhood-level civic spaces are scarce and unevenly distributed across the city, generating substantial variation in access to places that can support associational activity.[1] We focus on public parks, which are widely accessible and provide open spaces for meetings, physical activities, recruitment, and coordination. We also collected novel 2019 neighborhood-level data on the *Rashtriya Swayamsevak Sangh* (RSS), a Hindu nationalist volunteer organization closely associated with the *Bharatiya Janata Party* (BJP). The RSS operates through local branches known as *shakhas*, which typically meet in parks and open grounds and involve physical training, games, recruitment, coordination, and ideological discussion.

[1] Delhi's total mapped park area, based on our OpenStreetMap (OSM) extraction, is approximately 40.05 million square meters. This represents just 2.76 percent of the city's total land area and is equivalent to approximately 2.51 square meters of formal park space per resident (2.71 per elector).

The political setting also allows us to examine whether civic space confers a stable ideological advantage or benefits whichever political actor is positioned to use it. Delhi has a competitive party system involving the BJP, the *Indian National Congress* (INC), and, since 2013, the *Aam Aadmi Party* (AAP). The AAP emerged from the India Against Corruption movement of 2011–2013, which organized protests, marches, and other political activities in Delhi's public spaces. The emergence of the AAP therefore provides an episode in which a different political actor mobilized intensively through civic space, allowing us to examine whether the partisan advantage associated with parks changes with the organizational actor using them.[2]

We begin with the 2020 Delhi Assembly election. We combine neighborhood-level electoral returns constructed from polling-booth-level data with spatial data on public parks. We measure *park access* as the share of neighborhood land devoted to parks, normalized by electorate size and expressed per 100,000 electors.[3] Neighborhoods with greater park access deliver substantially higher vote shares to the BJP-led alliance (BJP+). In OLS specifications, a one-standard-deviation increase in park access is associated with an approximately 1.79 percentage-point (p.p.) increase in BJP+ vote share. The relationship is robust to a rich set of controls for local economic conditions, physical infrastructure, population density, public amenities, and demographic composition, including literacy, employment, caste, gender, and religious shares.

Nonetheless, contemporary park access may be endogenous. Public goods may be strategically targeted toward politically aligned constituencies, a standard concern in distributive politics (Dixit and Londregan, 1996). To address these concerns, we exploit Delhi's 1962 Master Plan, the city's first comprehensive land-use blueprint. Prepared by the Delhi Development Authority with technical assistance from a Ford Foundation planning team, the Plan designated land for recreational uses, a category comprising district and regional parks, playgrounds, open spaces, and semi-public recreation. We use these predetermined recreational land allocations as an instrument for contemporary park access.

Several findings support the validity of this design. Although the RSS and the *Bharatiya*

[2]The role of physical space in collective action is not unique to Delhi. Public spaces have served as focal points for political mobilization in settings ranging from Tahrir Square during the Egyptian Revolution (Korany, 2014) to Gezi Park in Istanbul (Gül et al., 2014). These episodes highlight how the physical organization of urban space can shape opportunities for collective action, but they also involve extraordinary moments of mass mobilization. Our setting allows us to study a quieter and more persistent form of this phenomenon: whether ordinary civic spaces embedded in residential neighborhoods shape the capacity of political organizations to mobilize over time.

[3]The exact measure is $\frac{\text{park area/neighborhood area}}{\text{number of electors}} \times 100{,}000$. The results remain robust to variations of this measure.

Jana Sangh—the latter being the BJP's political predecessor—already existed, neither controlled the institutions responsible for preparing the Master Plan. More importantly, the proposed allocations do not appear to reflect Delhi's pre-existing social or political geography. Planned recreational land is not significantly associated with caste, religion, or other demographic and social characteristics measured in 1951. It also does not significantly predict the 1951 vote shares of either the Bharatiya Jana Sangh or the Indian National Congress. These findings weigh against the possibility that the Plan codified neighborhoods' pre-existing demographic composition or partisan preferences.

The planned recreational allocations strongly predict contemporary park access. The IV estimates imply that a one-standard-deviation increase in park access raises BJP+ vote share in the 2020 election by approximately 1.92 percentage points. The results are also robust to measures of actual park area and planned recreational area that do not use the contemporary electorate as their denominator. The OLS and IV estimates both imply a politically meaningful effect of civic infrastructure in a competitive urban election.

The electoral effect reflects a reallocation of partisan support rather than a general increase in electoral participation. Greater park access is associated primarily with a reduction in AAP vote share, while voter turnout remains unchanged. This pattern is consistent with parks affecting parties' ability to mobilize and persuade voters rather than simply bringing otherwise inactive citizens into the electoral process.

Although the IV strategy and rich controls reduce concerns about reverse causality and observable confounding, the possibility of omitted local characteristics remains. For example, partition-era settlement patterns or other persistent neighborhood characteristics could be correlated with both park access and political preferences. To address this concern, we complement the neighborhood-level analysis with an assembly-constituency panel covering the four Delhi elections held between 2008 and 2020. Assembly-constituency fixed effects absorb persistent features of local political geography, including historical settlement patterns for refugees and stable differences in political preferences, while election fixed effects absorb citywide political shocks.[4] Identification comes from changes in park access within constituencies over time. The estimates imply that an increase in park access is associated with a significant increase in BJP+ vote share.

This average relationship, however, masks striking variation across elections. The association between park access and BJP+ vote share is positive and significant in 2008, 2015,

[4] Although physical park infrastructure changes relatively slowly, park access is not fixed. Park area changes over time, and a given stock of civic space must be shared among an evolving electorate. We therefore measure park access separately for each election.

and 2020 but weakens to near zero in 2013. At the same time, the relative electoral advantage associated with parks shifts toward the AAP, which emerged from the India Against Corruption movement that mobilized extensively in Delhi's public spaces. Although this pattern does not rule out other time-varying explanations, it is difficult to reconcile with stable ideological sorting alone and is consistent with civic space serving as a flexible input into political mobilization.

To examine this mechanism further, we study the relationship between park access and RSS organizational presence. Because RSS *shakhas* typically conduct their activities in parks and open grounds, the number of local *shakhas* provides a direct measure of whether civic space is associated with grassroots organizational activity. Using both OLS and IV specifications, we find that neighborhoods with greater park access host significantly more RSS *shakhas* per 100,000 electors. The IV estimates imply that a one-standard-deviation increase in park access generates approximately 4.14 additional *shakhas* per 100,000 electors. Using the average of 64 members per *shakha*, this corresponds to approximately 265 more RSS members per 100,000 electors.

We then examine whether park-rich areas were sites of anti-corruption mobilization between 2011 and 2013.[5] Consistent with the proposed mechanism, newspaper-documented protest locations are positively associated with park access at the assembly-constituency level. The relationship between park access and BJP+ vote share strengthens again in 2015, after the movement had transitioned from public protest to conventional party competition.

Taken together, three findings point toward mobilization rather than stable residential sorting alone. First, park access predicts the presence of RSS *shakhas*, whose neighborhood activities require open space. Second, park-rich constituencies were more likely to host protests during the anti-corruption movement that gave rise to the AAP. Third, the partisan advantage associated with parks shifts toward the AAP in 2013 and back toward the BJP-led alliance in 2015. We also find no systematic relationship between park access and changes in demographic composition between the 2001 and 2011 Censuses, providing no evidence of differential pre-2013 demographic trends in park-rich areas. Together, these findings support an interpretation in which civic infrastructure lowers the spatial costs of collective action. Rather than mechanically favoring a particular ideology, civic space appears to benefit political actors with the organizational capacity to use it.

[5]The India Against Corruption movement began in early 2011, peaked in August 2011 and slowly subsided. The 2013 elections were held in December 2013.

1.1 Contribution to the Literature

This paper makes three contributions. First, it brings the built environment into the study of political organization. Research in urban economics shows that urban form and infrastructure shape economic activity, mobility, public-good provision, crime, and gendered access to urban opportunities (Harari, 2020; Akbar et al., 2023; Harari, 2024; Khanna et al., 2025; Amaral et al., 2025). Political economy, by contrast, has largely studied infrastructure as an outcome of political institutions and distributive conflict (Lizzeri and Persico, 2001; Chattopadhyay and Duflo, 2004; Burgess et al., 2015; Narasimhan and Weaver, 2024). We provide evidence that civic infrastructure can also function as an input into political competition. By providing accessible sites for meetings, recruitment, coordination, and protest, public space can create persistent spatial differences in organizational capacity. Moreover, the partisan advantage associated with civic space is not fixed: park access predicts both BJP+ support and RSS organization, but its electoral association shifts toward the AAP during the anti-corruption movement, which mobilized intensively in public spaces. This temporary shift supports an organizational interpretation and is difficult to reconcile with an account in which urban amenities confer a stable advantage on a particular party.

Second, the paper contributes to the literature on political mobilization and collective action (Huckfeldt and Sprague, 1992; Rosenstone and Hansen, 1993; Rolfe, 2012; Madestam et al., 2013; Cantoni et al., 2019). Existing research emphasizes activists, social networks, information, beliefs about participation, and shocks that stimulate protest. We identify physical meeting space as a complementary organizational input. Face-to-face mobilization requires locations in which organizations can recruit participants, coordinate activities, and sustain local engagement. In dense urban settings, access to such locations is scarce and spatially uneven. Our evidence links park access to the neighborhood presence of RSS *shakhas* and shows that the partisan advantage associated with parks changes when a different political movement organizes intensively through public space. The contribution is therefore not simply that protests or local organizations affect elections, but that urban land use shapes where political organization can be built and which actors are positioned to benefit from it.

Third, the paper contributes to research on the organizational foundations of nationalist and ideological movements (Satyanath et al., 2017; Bazzi et al., 2019; Grewal, 2025). This literature emphasizes social networks, institutional change, and religious infrastructure as factors affecting the growth and spread of such movements. We highlight a complementary spatial mechanism: organizations also require accessible places in which associational activity can occur. In Delhi, park access facilitates RSS neighborhood organization, while

the 2013 shift suggests that the underlying mechanism is not specific to Hindu nationalism. Civic space can support competing political movements when they possess the organizational capacity to use it.[6]

The remainder of the paper is organized as follows. Section 2 discusses the institutional background and data sources. Section 3 presents the empirical strategy and the main results. Section 4 discusses mechanisms and robustness checks. Finally, Section 5 concludes.

2 Background and Data

2.1 Electoral Competition in Delhi

Our analysis focuses on Delhi Legislative Assembly elections, in which voters elect Members of the Legislative Assembly (MLAs) from single-member assembly constituencies. To the best of our knowledge, the 2020 Delhi Assembly election is the only election for which detailed public information on polling-station addresses, the number of electors, and candidate-level vote counts is available at the scale required for our locality-level analysis. We supplement this cross-sectional analysis with assembly-constituency electoral data covering the four elections held between 2008 and 2020.

Our main cross-sectional analysis uses polling-booth-level data from the 2020 Delhi Assembly election. This granularity is essential because our data on RSS organizational activity are recorded at the locality level. We therefore construct electoral outcomes at the same locality level, allowing us to compare vote shares, turnout, public park access, and RSS *shakha* activity within a common spatial unit.[7]

The polling-booth data are sourced from the official website of the Chief Electoral Officer (CEO) of Delhi.[8] For each polling booth, the data reports the number of registered electors, and candidate-level vote counts. The address of the corresponding polling station as sourced from Sood et al. (2018).[9] We geocode these addresses using a multi-step procedure. We first

[6]The paper also relates to the political economy of India; see Vanden Eynde (2018); Arya and Bhatiya (2025).

[7]The RSS organizational records divide Delhi into a system of non-overlapping localities that collectively exhaust the city's area, but they do not provide corresponding geospatial boundaries. We therefore digitized these locality boundaries in consultation with RSS members familiar with the organization's local structure in Delhi. Boundaries were delineated using recognized neighborhood limits, roads, and other geographic landmarks. They were defined prior to conducting the empirical analysis and without reference to electoral returns, contemporary park locations, or the 1962 Master Plan allocations. The assembly-constituency panel provides corroborating evidence using a coarser spatial unit defined by official administrative boundaries.

[8]https://www.ceodelhi.gov.in/DelhiAssemblyElectionBook2020.aspx

[9]We further verify them using two sources: the CEO website and a private, non-government portal providing

match polling-station addresses to georeferenced maps of Delhi's assembly constituencies.[10] For addresses that cannot be matched automatically, we manually locate the polling stations using publicly available school addresses, since many polling stations are hosted in schools, and verify their locations using Google Maps.[11] This procedure allows us to locate more than 98 percent of polling booths.[12]

We assign each polling booth to a locality using its geocoded polling-station coordinates and a point-in-polygon match. We then aggregate the booth-level electoral data within each locality. Party vote shares are calculated relative to total valid votes, while voter turnout is defined as total votes polled divided by the number of registered electors. We also sum the number of electors across polling booths to construct the electorate denominator used in our locality-level measures.

Our principal electoral outcome combines each major party with its electoral alliance partners. BJP+ denotes the vote share received by the candidate representing the BJP-led alliance in each constituency. In the 2020 election, the BJP contested 67 of Delhi's 70 assembly constituencies, while the *Janata Dal (United)* [JD(U)] contested two and the *Lok Janshakti Party* (LJP) contested one. INC+ similarly denotes the vote share received by the candidate representing the Congress-led alliance. The *Indian National Congress* contested 66 constituencies, while the *Rashtriya Janata Dal* (RJD) contested four. Alliance partners contested mutually exclusive constituencies, so no two parties belonging to the same alliance competed for votes in the same constituency. We separately calculate AAP vote share and combine votes received by all remaining parties and independent candidates into an "Other" category.

The complete locality system covers Delhi without overlap, but our cross-sectional regression sample is restricted to the 117 localities for which polling-booth electoral returns, contemporary park data, and the required demographic and economic controls are all avail-

aggregated, assembly-wise polling station data and maps for Delhi to assist voters. These are the respective links: https://ceodelhinet.nic.in/ceodelhiweb/ListofPollingStation.aspx, and https://www.elections.in/delhi/polling-stations/.

[10] https://ceodelhi.gov.in/MapPage.aspx

[11] School locations from https://www.edudel.nic.in/mis/eis/frmSchoolList.aspx?type=t5PRKC9ILXruG7UivWYTAg==, https://www.edudel.nic.in/mis/eis/frmSchoolList.aspx?type=7nt/YqWsGPyGj3AOgCiCrLYR9/hJMh+cHN5ryz9gZxQ=

[12] Of the more than 13,000 polling booths we georeferenced, 420 have coordinates that fall outside the assembly constituency to which they are administratively assigned. Whether these discrepancies reflect small georeferencing errors near constituency boundaries or polling locations situated outside the constituencies they serve, they could introduce error when constructing locality-level electoral outcomes. We therefore reconstruct the outcomes after excluding these booths. The estimated relationship between park access and BJP+ vote share remains similar in magnitude and statistical significance under both the broad and narrow park measures (Appendix Tables A27 and A28).

able. These 117 localities cover 71.48 percent of Delhi's electorate and contain more than 10 million registered electors. All 117 localities, including those with no recorded *shakhas*, are retained in the vote-share regressions. For the RSS-outcome regressions, we exclude six localities corresponding to military cantonment and high-security VIP areas, where public gatherings such as *shakhas* are generally not permitted. These localities have no recorded *shakhas*, leaving 111 localities in the RSS analysis. Planned recreational land-use data from the 1962 Master Plan are available for 110 of the 117 localities in the vote-share sample and 104 of the 111 localities in the RSS sample. These coverage differences account for the changes in sample size across the OLS and IV specifications.

We use the 1951 Delhi Assembly election separately to examine whether recreational land allocations proposed in the 1962 Master Plan predict pre-treatment electoral outcomes. Delhi subsequently ceased to have a directly elected Legislative Assembly with comparable law-making powers between the mid-1950s and the restoration of the Assembly in 1993. Assembly elections were held in 1993, 1998, and 2003, but the constituency boundaries differed from those used in later elections. Delimitation established the current assembly-constituency boundaries before the 2008 election. Our comparable constituency-level panel therefore begins in 2008 and covers the Delhi Assembly elections of 2008, 2013, 2015, and 2020.[13] These electoral data, obtained from the CEO Delhi website, cover all of Delhi and allow us to examine how the relationship between park access and party vote shares evolves across elections.

Unlike the locality-level analysis, which exploits the availability of RSS organizational data, the panel analysis is conducted at the assembly-constituency level because historical electoral outcomes are consistently available at this spatial unit. The constituency-level panel serves three purposes. First, it allows us to examine whether the main electoral patterns are also present in a citywide sample rather than only in the 117 localities used for the high-resolution 2020 analysis. Second, it allows us to include assembly-constituency fixed effects, thereby controlling for time-invariant local characteristics that may be correlated with both park access and political preferences. Third, it allows us to examine whether the partisan association with parks remains stable over time or changes with the organizational landscape.

Electoral competition in Delhi during this period involved three major parties. The BJP is one of India's two major national parties and has historically maintained a strong

[13] Reliable and comparable park data cannot be reconstructed for the 1993, 1998, and 2003 elections because historical geospatial coverage of parks is incomplete. OpenStreetMap was launched in 2004, and its coverage expanded gradually over time. Existing research documents substantial spatial and temporal variation in OSM completeness (Haklay, 2010; Barrington-Leigh and Millard-Ball, 2017).

organizational presence in Delhi. The INC, also a national party, governed Delhi for three consecutive terms before 2013. The AAP emerged from the anti-corruption mobilizations of 2011–2013 and first contested the Delhi Assembly election in 2013. Since then, it has become the BJP's principal electoral competitor in Delhi. Because the AAP did not exist at the time of the 2008 election, we do not include 2008 observations in any regression with AAP vote share as the dependent variable.

2.2 The RSS and Neighborhood-Level Mobilization

The *Rashtriya Swayamsevak Sangh* (RSS), literally the "National Volunteer Organization," is a Hindu nationalist volunteer organization founded in Nagpur in 1925. The organization describes its mission as the character-building and social organization of Hindu society (Anderson and Damle, 2018). Its core unit of activity is the *shakha*, a recurring neighborhood-level gathering of volunteers. A *shakha* is not a single meeting event; it is an organizational unit whose members gather almost daily, generally in the morning or evening. Although not every participant necessarily attends each gathering, the gathering itself is held on a near-daily basis. Activities typically include physical exercises, games, yoga, group drills, prayers, and discussions of social and national issues. These gatherings commonly take place in public parks and open grounds.

The spatial requirements of *shakhas* make the RSS particularly useful for studying the political role of civic infrastructure. Unlike forms of political communication that can occur through households, media, or digital networks, a *shakha* requires a recurring physical meeting place suitable for group activities. Open and accessible civic spaces may therefore lower the costs of establishing and sustaining neighborhood-level organizational activity. Public parks are especially relevant in our setting because they provide low-cost locations in which these gatherings can occur regularly.

The RSS is also politically important because of its close ideological and organizational relationship with the *Bharatiya Janata Party* (BJP). The two organizations are formally distinct, but many senior BJP leaders have had long associations with the RSS, and the RSS forms part of the broader organizational network associated with Hindu nationalist politics in India. Its local cadres and organizational networks are widely viewed as important components of the grassroots mobilization infrastructure supporting the BJP's electoral campaigns (Ramaseshan, 2016). This relationship yields a clear empirical implication: if civic infrastructure facilitates political organization, localities with greater access to parks should exhibit greater RSS organizational presence and, insofar as this presence contributes

to electoral mobilization, higher BJP+ vote shares.

We use a novel locality-level dataset on RSS organizational activity in Delhi. These data were collected by the authors through fieldwork and access to organizational records that are not publicly available. Whereas RSS annual reports provide aggregate information on the organization's activities at the national or state level, our data record the spatial distribution of RSS activity within Delhi in 2019. Specifically, they identify the localities in which *shakhas* operate and report the number of active *shakhas* in each locality. The unit recorded in the data is therefore the recurring organizational gathering, rather than the number of individual meeting events held during the year.

Our empirical outcome is the number of *shakhas* per 100,000 electors.[14] On average, there are approximately 19 *shakhas* per 100,000 electors in our Delhi sample. RSS *shakhas* in our data are male gatherings, and organizational records indicate that the average *shakha* has approximately 64 participants.[15] Because attendance may vary across daily gatherings and some participants are below voting age, the reported number of participants should be interpreted as an indicator of the scale of organizational participation, rather than as a daily attendance count or a share of the electorate. The locality-level *shakha* measure allows us to directly examine whether park access facilitates grassroots organizational activity and whether this organizational presence helps account for the relationship between civic infrastructure and BJP+ vote share.

2.3 Contemporary Parks in Delhi

Public parks are the primary form of civic infrastructure studied in this paper because they provide accessible, recurring, and low-cost locations for neighborhood-level association. They are especially relevant for the RSS because *shakhas* combine ideological discussion with outdoor games, physical exercises, group drills, and other activities that require open space. In a dense and space-constrained city such as Delhi, where population density exceeds 11,000 persons per square kilometer (Census of India, 2011), access to open public space varies substantially across neighborhoods.

We measure contemporary park access using geospatial data from OpenStreetMap (OSM).[16]

[14]The spatial distribution of *shakhas* per 100,000 electors for 111 localities in Delhi is represented in Figure A2. Table A1 reports the summary statistics. RSS presence in Delhi from 2012 to 2019 is represented

[15]The *Rashtra Sevika Samiti* is a separate women's organization that operates parallel to the RSS and has broadly similar organizational goals. It is not a female wing within the RSS's organizational structure. The RSS describes the Samiti as having a different name and prayer and an independent organizational structure. Our data do not include Samiti activities. See https://www.rss.org/Encyc/2015/3/13/Vision-and-Mission.html.

[16]https://www.openstreetmap.org

We use OSM snapshots dated January 31, 2015, and January 31, 2020, immediately preceding the Delhi Assembly elections held in February of those years. We extract all mapped park polygons within Delhi and calculate the park area falling within each spatial unit. When a park polygon crosses a locality or assembly-constituency boundary, we divide the polygon at the boundary and assign each portion to the spatial unit in which it lies. Thus, park area is allocated across units without double counting.

We consider two definitions of parks. Our broad definition includes polygons tagged `leisure=park`, `leisure=playground`, `leisure=garden`, `leisure=dog_park`, `leisure=fitness_station`, and `landuse=recreation_ground`. Our narrow definition includes only polygons tagged `leisure=park`.[17] We use the broad definition as our baseline because it more closely corresponds to the recreational land-use categories designated in the 1962 Master Plan. We use the narrow definition as a robustness check. The two measures have a correlation exceeding 0.99 and produce nearly identical results.

For spatial unit i in election year t, we construct park access as

$$Park\ Access_{it} = \left(\frac{Park\ Area_{i,\tau(t)}}{Area_i}\right) \times \left(\frac{100{,}000}{Electors_{it}}\right)$$

,

where i denotes either a locality or an assembly constituency, depending on the analysis, and $\tau(t) = 2015$ for the 2008, 2013, and 2015 elections and $\tau(t) = 2020$ for the 2020 election. The measure increases when parks occupy a larger share of a spatial unit's area and decreases when a given amount of park space is shared among more electors. It therefore captures both the spatial intensity of park provision and its availability relative to the electorate.

Historical OSM coverage before 2015 is not complete enough for comparable measurement. We therefore use park area from the January 31, 2015 snapshot for the 2008, 2013, and 2015 elections and combine it with electorate counts from each election. This approach assumes that the relative spatial distribution of park area did not change substantially over this period. The correlation between the corresponding 2015 and 2020 park measures exceeds 0.9, consistent with substantial persistence in the spatial distribution of measured park area.[18] Consequently, changes in park access between 2008 and 2015 arise from changes in

[17] In our Delhi data, polygons tagged `leisure=fitness_station` represent open-access outdoor areas containing exercise equipment, rather than enclosed or privately operated gyms. This corresponds to OSM's definition of a fitness station as an outdoor exercise facility, typically free to use. See https://wiki.openstreetmap.org/wiki/Tag:leisure=fitness_station. The results are robust to excluding fitness stations from the broad park measure.

[18] Although this does not by itself establish stability in earlier years, we need to make this assumption for Panel level analysis.

the number of electors sharing the park space recorded in 2015. Changes between 2015 and 2020 additionally incorporate changes in measured park area. We also show that the results are robust to alternative measures based on park-area levels, park area per elector, and park area as a share of the spatial unit's total area.

For the 2020 cross-sectional analysis, we calculate park area within each of the 117 RSS localities in our main dataset. For the electoral panel, we calculate park area within each assembly constituency. This produces a comparable measure of park access for the high-resolution locality analysis and the assembly-constituency panel. Table A1 reports summary statistics for contemporary park access, and Figure A2 shows its distribution across localities.

2.4 The 1962 Master Plan and Predetermined Land-use Allocations

A key empirical concern is that contemporary park access may be endogenous to political preferences and organizational activity. Public goods may be allocated toward areas with particular socioeconomic characteristics or toward constituencies that are politically important to incumbent governments (Dixit and Londregan, 1996). In our setting, OLS estimates would be biased if neighborhoods with greater BJP+ support or stronger RSS presence were also more likely to receive or preserve public parks.

To address this concern, we use land designated as *Recreational* in Delhi's 1962 Master Plan as an instrument for contemporary park access. The 1962 Master Plan was Delhi's first comprehensive post-independence land-use plan. Prepared by the Delhi Development Authority (DDA), with technical assistance from a Ford Foundation planning team, the Plan designated land across the city for residential, commercial, industrial, recreational, and public and semi-public uses. A central objective was to organize Delhi's urban expansion through planned neighborhoods with access to basic services, employment, transportation, and open spaces.[19]

The timing and institutional origins of these allocations make them a useful source of historical variation. The Plan predates the BJP, the AAP, and Delhi's contemporary system of party competition. Although the RSS and the *Bharatiya Jana Sangh*—the BJP's political predecessor—already existed, neither controlled the institutions responsible for preparing the Plan. The recreational allocations were instead produced as part of a broader technocratic planning process. They were not randomly assigned, and the Plan was not implemented perfectly. Nevertheless, its land-use designations influenced Delhi's subsequent urban development and strongly predict the contemporary spatial distribution of parks.

[19] https://dda.gov.in/master-plan-1962

We digitize and georeference the proposed land-use map from the 1962 Master Plan. Our instrument is based on land classified by the Plan as *Recreational*, a category comprising District Parks, Playgrounds, Open Spaces, Semi-Public Recreation, and Regional Parks. We extract all polygons assigned to this category and aggregate their area to the spatial units used in the analysis. For each spatial unit, we construct planned recreational access using the same normalization as for contemporary park access:

$$\textit{Planned Recreational Access}_i = \left(\frac{\textit{Planned Recreational Area}_i}{\textit{Area}_i}\right) \times \left(\frac{100{,}000}{\textit{Electors}_i}\right).$$

We use this measure as an instrument for contemporary park access. Because the geographic extent of the 1962 land-use map does not cover all areas that now form part of Delhi, planned recreational access cannot be constructed for some contemporary localities. This historical coverage limitation accounts for the smaller samples used in the IV analysis.[20] Figure A1 displays the proposed land-use map, while Figure A2 compares the distribution of planned recreational access with contemporary park access across localities.

The identifying assumption is that, conditional on the included covariates and zone fixed effects, planned recreational allocations affect contemporary political outcomes through their effect on contemporary park access. A potential threat is that recreational allocations may be correlated with other features of planned neighborhoods or with broader patterns of urban development that independently affect contemporary political outcomes. We assess this concern using several pieces of evidence.

First, we examine whether planned recreational allocations reflect pre-existing social or political geography. The allocations are not systematically associated with caste, religion, or other demographic and social characteristics measured in 1951 (Table A5.). They also do not significantly predict the 1951 vote shares of either the *Bharatiya Jana Sangh* or the *Indian National Congress* (Table A4). These results weigh against the possibility that the Plan simply codified pre-existing demographic composition or partisan preferences, although they cannot rule out every possible unobserved pathway.

Second, we report specifications that include a rich set of contemporary demographic, economic, and infrastructural characteristics. These specifications allow us to examine whether the estimates are explained by observable present-day neighborhood conditions that are correlated with both predicted park access and political outcomes. Because these

[20] We lose 7 localities out of 117.

characteristics are measured after the 1962 Plan and may themselves have been affected by subsequent neighborhood development, we do not interpret their inclusion as independent evidence supporting the exclusion restriction.

Finally, we complement the locality-level IV analysis with an assembly-constituency panel that does not rely on the historical instrument. Assembly-constituency fixed effects absorb persistent differences across constituencies, while variation across elections allows us to examine whether the partisan relationship with park access changes over time. This complementary design addresses a different set of identification concerns and provides additional evidence on the relationship between park access and electoral outcomes.

Taken together, the institutional history and pre-treatment tests reduce concerns that the planned recreational allocations merely capture Delhi's pre-existing social or political geography. The assembly-constituency panel provides complementary evidence under a design that does not rely on the historical instrument. These exercises cannot establish the exclusion restriction, which ultimately remains an identifying assumption. Table A1 reports summary statistics for planned recreational access.

2.5 The India Against Corruption Movement and AAP's Rise

The 2013 Delhi Assembly election provides a useful setting for examining whether the partisan relationship with parks reflects only stable residential sorting or also varies with political actors' capacity to mobilize through civic space. If park-rich neighborhoods simply contain residents with persistently different political preferences, the relationship between parks and party vote shares should be relatively stable across elections. If, instead, parks lower the costs of grassroots organization, the relative partisan advantage associated with them may change when a different political actor becomes particularly well positioned to use public space for recruitment, meetings, and campaign activity.

The India Against Corruption (IAC) movement of 2011–2013 represented such a change in Delhi's organizational landscape. The movement began as a mass anti-corruption campaign centered on demands for a national anti-corruption ombudsman and quickly became one of the most visible episodes of urban protest in contemporary India. Delhi was its political and organizational center. Major protests were held at prominent public sites such as *Ramlila Maidan* and *Jantar Mantar*, while contemporary accounts describe a wider pattern of marches, sit-ins, meetings, and neighborhood gatherings across the city's public and semi-public spaces (Singh, 2014). The movement therefore positioned a new group of political actors to mobilize through the kinds of civic spaces central to our empirical setting.

To document the spatial distribution of this mobilization, we search the *Times of India* archive available through LexisNexis for articles published between January 1, 2011, and December 3, 2013, the eve of the Delhi Assembly election. The search requires articles to contain at least one movement-related term and at least one protest-related term.[21] We exclude articles referring exclusively to protests outside Delhi, leaving 413 articles. We extract the reported protest locations, map them to Delhi's assembly constituencies, and manually review and verify all retained articles and location-to-constituency assignments.

Multiple articles may describe the same protest, and a single protest may continue over several days. We therefore do not use the number of articles to measure the number or intensity of protest events. Instead, we construct an indicator equal to one if at least one retained article documents a protest location within an assembly constituency and zero otherwise. The measure therefore captures the extensive margin of newspaper-documented protest presence. Constituencies with greater park access are significantly more likely to contain a documented protest location. The association remains positive when we exclude the constituencies containing *Ramlila Maidan* and *Jantar Mantar*, suggesting that it is not entirely attributable to Delhi's two most prominent protest venues. We interpret this pattern as supporting evidence that documented anti-corruption mobilization extended beyond a small number of symbolic sites, rather than as a causal estimate of the effect of parks on protest activity.

The IAC movement also provided the organizational origins of a new electoral competitor. Several activists associated with the movement, including Arvind Kejriwal, subsequently founded the *Aam Aadmi Party* (AAP). The AAP was formally launched in 2012 and first contested the Delhi Assembly election in 2013. In the run-up to the election, the party relied heavily on volunteer-driven outreach, public meetings, neighborhood campaigns, and local mobilization. Contemporary reporting describes Kejriwal and other organizers addressing supporters in open courtyards, colleges, and other public spaces.[22] This public-space-based mobilization formed part of the organizational background to the AAP's 2013 campaign. In that election, the party won 28 of 70 seats and formed a minority government with outside support from the INC, replacing the INC as the BJP's principal competitor in Delhi state politics. In subsequent elections, the AAP competed as an established political party rather than as a new entrant emerging directly from a protest movement, while the RSS continued

[21] The movement-related terms are 'Anna Hazare," 'IAC," 'India Against Corruption," 'Kejriwal," and 'AAP." The protest-related terms are 'protest," 'protests," 'candlelight," 'dharna," 'sit-in," 'andolan," 'agitation," 'demonstration," 'hunger-strike," 'fast," 'march," and "rally."

[22] See the article published in *The Caravan*: https://caravanmagazine.in/vantage/arvind-kejriwal-agitator-turned-electioneer.

its existing neighborhood-level organizational activities.

This episode yields a clear empirical implication. If parks facilitate mobilization, park-rich areas need not provide the same relative advantage to the same party in every election. In 2013, when the AAP entered electoral politics following an intensive period of public-space-based mobilization, park access should be associated with a relative shift toward the AAP and a weaker relationship with the BJP-led alliance (BJP+) than in other elections. Such a temporary change in the partisan relationship with parks is more difficult to reconcile with an account in which parks merely proxy for stable ideological composition or long-run residential sorting. The 2013 election therefore provides an informative diagnostic of whether the partisan association with parks changes when a different political actor is positioned to mobilize through public space. This pattern would not definitively separate mobilization from sorting or rule out other time-varying explanations, but it would be consistent with civic space functioning as adaptable organizational capacity rather than conferring a fixed advantage on a particular party.

2.6 Demographic, Economic, and Infrastructure Controls

A central concern in interpreting the relationships among park access, RSS organizational presence, and BJP+ vote share is that park-rich localities may differ systematically from other parts of Delhi. They may be more affluent, better planned, or have different demographic compositions, and these characteristics may independently predict political preferences and organizational activity. We therefore compile a rich set of demographic, economic, and infrastructural controls.

We first use demographic data from the 2011 Census of India.[23] The relevant variables are available at the census-town and census-villages level. We obtain these boundaries from the SHRUG database (Asher et al., 2021) and overlay them with the RSS locality boundaries used in our main analysis. For each intersection between a census ward and an RSS locality, we allocate the underlying ward-level demographic counts in proportion to the amount of ward land area overlapping the locality. We then sum the allocated counts within each locality and use these totals to reconstruct the relevant proportions and ratios. Thus, we first spatially allocate the underlying counts rather than directly averaging ward-level proportions.

The resulting controls include the proportion of scheduled castes, the proportions literate and employed, population density, and the proportions of Hindus, Muslims, Sikhs, and Christians. We define the sex ratio as the number of males divided by the number of females,

[23] https://censusindia.gov.in/census.website/data/census-tables

using the spatially allocated male and female counts. Population density is constructed using the allocated population count and the total area of the locality.

We obtain measures of economic conditions, infrastructure, and locality characteristics from the Fifth Municipal Valuation Committee (MVC) report for Delhi.[24] The MVC classifies Delhi's colonies for property-tax valuation using information on economic status, land and rental values, physical and social infrastructure, road access, colony age, and colony type. We use measures of annual rental value, physical infrastructure, economic status, and locality characteristics, including whether a colony is approved, regularized, or unauthorized. We standardize the continuous MVC measures as z-scores before estimation.

Although the Fifth MVC report is dated 2022, the underlying system of classifying Delhi's colonies into categories A through H was introduced by the First MVC in 2003–2004. The Fifth MVC retained the Unit Area Values recommended by the First MVC and largely retained the existing colony categories, making only minimal changes where warranted.[25] The Fifth MVC report therefore provides a consolidated source for a classification system that substantially predates the 2020 election, rather than a new classification constructed after the election.

We geocode the MVC colonies and locate them within the RSS locality boundaries. When more than one MVC colony is located in an RSS locality, we take the mean of the ratings located within the locality polygon. We also count the number of schools mapped within each locality using the OpenStreetMap data described in Section 2.3. Together, these variables provide proxies for neighborhood affluence, planned development, public amenities, and local infrastructure.

Finally, all locality-level regressions include fixed effects for the eight RSS organizational zones in which the localities are nested. Because our locality boundaries follow the RSS organizational classification, these zones provide the corresponding higher-level geographic groupings. The eight zones are East Delhi; Jhandewalan (Central Delhi); Keshavpuram (Northwest Delhi); North Delhi; R.K. Puram (Southwest Delhi); South Delhi; West Delhi; and Yamuna Vihar (Northeast Delhi). The zone fixed effects absorb broad differences in geography and organizational structure across these parts of the city.

[24] https://mcdonline.nic.in/portal/downloadFile/final_report_of_mvc_-v_committee_30.9.2022_230421104536436.pdf

[25] See https://www.business-standard.com/india-news/mcd-implements-mvc-recommendations-no-change-in-existing-unit-area-value-123042101272_1.html.

3 Empirical Strategy and Main Results

This section presents our empirical strategy and main results. We begin with ordinary least squares estimates relating park access to electoral outcomes, followed by the instrumental variables strategy that exploits predetermined recreational land-use allocations from the 1962 Master Plan and checks of robustness to alternative park measures. We then extend the analysis to an assembly constituency panel that includes election-year and constituency fixed effects.

3.1 Park Access and Electoral Outcomes

We begin by examining the relationship between civic infrastructure and electoral outcomes in Delhi. These estimates are descriptive and document whether neighborhoods with greater access to public recreational spaces exhibit systematically different patterns of political support. We first focus on the 2020 Delhi Assembly election, for which we have detailed polling booth-level electoral outcomes that can be aggregated to the locality level. The locality-level analysis allows us to examine the relationship between park access, party vote shares, and voter turnout in the same spatial units in which we observe RSS organizational activity.

Our baseline specification estimates the following equation:

$$Y_i = \alpha + \beta \, \text{ParkAccess}_i + X_i' \gamma + \delta_z + \epsilon_i, \tag{1}$$

where Y_i denotes the electoral outcome in locality i, including BJP+ vote share, BJP vote share, vote shares of other political parties, or voter turnout. ParkAccess_i measures access to civic recreational space, defined as the share of locality area covered by parks normalized by 100,000 electors. X_i is a vector of locality-level controls, and δ_z denotes zone fixed effects that absorb broad geographic differences across Delhi localities.[26] Standard errors are heteroskedasticity-robust.

Including zone fixed effects ensures that we are comparing places with lower park access to higher park access within a zone, and not differences in park access between more affluent regions like South Delhi to lesser ones like North-East Delhi. The controls are designed to address observable differences across neighborhoods that may be correlated with both civic infrastructure and political outcomes. We include several demographic controls from the

[26] There are eight zones in our sample; see Section 2.6.

2011 Census. Caste composition is included because caste identities remain an important dimension of political competition in India and are strongly associated with electoral preferences and party support (Jaffrelot, 2003). Religious composition is included because the BJP's political mobilization has historically been closely linked to Hindu nationalist appeals, making neighborhood religious composition a potentially important correlate of electoral outcomes (Jaffrelot, 2007). We also control for sex ratio because gender differences in political preferences, turnout, and electoral participation have become increasingly important features of Indian elections (Jensenius, 2017). Literacy and employment capture differences in socioeconomic status, access to information, and patterns of political participation that may independently shape political preferences and mobilization (Fujiwara, 2015).

We additionally control for measures of economic affluence, physical infrastructure such as sewerage, drainage, street lighting, and sanitation, social infrastructure such as schools, and locality characteristics including road quality and the share of authorized colonies from the Fifth Municipal Valuation Committee (MVC) of Delhi. These controls account for differences in neighborhood development, formal planning, and state-provided infrastructure that may be correlated with contemporary political outcomes and park access.[27]

Table 1 reports the relationship between park access and support for the BJP and its allies. In the 2020 Delhi Assembly election, the BJP contested most seats independently but allocated three seats to alliance partners, the Janata Dal (United) and Lok Janshakti Party. We therefore define BJP+ as the combined vote share of the BJP and its allies throughout the paper. Columns (1) and (2) report specifications using BJP+ vote share as the dependent variable, while columns (3) and (4) use BJP vote share alone which reduces our sample by 3 observations. Column (1) uses our broad measure of civic recreational space, while column (2) reports results using the narrower definition based on OpenStreetMap park classifications. The two measures produce nearly identical estimates. Across specifications, greater park access is positively associated with BJP electoral support. The standard deviation of park access is 0.1577. Thus, the coefficient in column (1) implies that a one SD increase in park access is associated with a 1.79 percentage point increase in BJP+ vote share. The magnitude is economically meaningful relative to the mean BJP+ vote share of 39.9 percent, particularly in a competitive urban setting.[28]

The relationship is not driven by including alliance partners in the outcome measure.

[27] Existing work in urban economics and political economy emphasizes that neighborhood-level infrastructure and urban form are closely associated with socioeconomic sorting, public goods provision, and political behavior (Harari, 2020).

[28] The conclusions are unchanged when we allow for spatial correlation in the regression residuals using Conley standard errors; see Appendix Table A25.

Columns (3) and (4) show nearly identical results when the outcome is restricted to BJP vote share alone. These results indicate that the association between civic infrastructure and electoral support is not due to the distribution of alliance seats or coalition-specific electoral arrangements in the 2020 election. Unless otherwise stated, subsequent analyses report results using BJP+ vote share and the broad definition of civic recreational space.[29]

An important alternative explanation is that parks may simply increase overall political participation rather than shift electoral competition toward a particular party. To examine this possibility, Table 2 reports associations between park access and vote shares of other political parties, as well as voter turnout.[30] Greater park access is negatively associated with AAP vote share, while there is no statistically significant relationship with INC+, INC, other parties, or turnout.[31] The magnitudes are similar in absolute value, suggesting that the estimated relationship primarily reflects a shift in party support rather than differential electoral participation. Taken together with Table 1, these results suggest that the association between civic infrastructure and electoral outcomes reflects a reallocation of political support across parties rather than a general increase in electoral participation.

These OLS estimates, while robust to a large set of controls, cannot rule out endogenous allocation of parks. For example, parks may have been allocated strategically to neighborhoods with particular political characteristics or socioeconomic profiles. In the next section, we address this concern by instrumenting contemporary park access with predetermined recreational land-use allocations from the 1962 Delhi Master Plan.

3.2 Instrumental Variables: Predetermined Recreational Allocations

The OLS estimates document a strong relationship between civic infrastructure and political outcomes, but this relationship may not be causal. Contemporary park access may reflect endogenous local characteristics. For example, politically influential neighborhoods may have received greater public investment, or neighborhoods with particular socioeconomic characteristics may have been more likely to receive and preserve public recreational spaces. To address these concerns, we exploit predetermined variation in planned recreational land-use allocations from Delhi's 1962 Master Plan.

[29] In 2020, BJP+ consists of BJP –which contested in 67 seats, *Janta Dal United* (JDU)– which contested in 2 seats and *Lok Janshakti Party* (LJP) which contested in 1 seats. For 2008, 2013, and 2015 BJP+ consists of BJP and *Shriomani Akali Dal* (SAD).

[30] Table A3 reports the results for narrow measure of Park access.

[31] In 2020, INC+ consists of INC –which contested in 66 seats, and *Rashtriya Janta Dal* (RJD) which contested in 4 seats. For 2008, 2013, and 2015 INC contested in all 70 seats.

Table 1—Association between Park Access and BJP Electoral Support

	BJP+ Vote Share		BJP Vote Share	
	(1)	(2)	(3)	(4)
Park access *(Broad)*	0.1136*** (0.0373)		0.1107*** (0.0378)	
Park access *(Narrow)*		0.1147*** (0.0375)		0.1104*** (0.0377)
Observations	117	117	114	114
Mean of dependent variable	0.3985	0.3985	0.3982	0.3982
Zone fixed effects	Yes	Yes	Yes	Yes
Controls:				
Rental value	Yes	Yes	Yes	Yes
Physical infrastructure	Yes	Yes	Yes	Yes
Locality characteristics	Yes	Yes	Yes	Yes
Economic status	Yes	Yes	Yes	Yes
Number of schools	Yes	Yes	Yes	Yes
Proportion of scheduled castes	Yes	Yes	Yes	Yes
Proportion literate	Yes	Yes	Yes	Yes
Proportion employed	Yes	Yes	Yes	Yes
Sex ratio	Yes	Yes	Yes	Yes
Proportion of Hindus	Yes	Yes	Yes	Yes
Proportion of Muslims	Yes	Yes	Yes	Yes
Proportion of Sikhs	Yes	Yes	Yes	Yes
Proportion of Christians	Yes	Yes	Yes	Yes

Notes: Each column reports a separate OLS regression using locality-level data from the 2020 Delhi Assembly election. The dependent variable in columns (1)–(2) is the vote share of the BJP-led electoral alliance (BJP+). The dependent variable in columns (3)–(4) is the BJP's vote share, and the sample is restricted to localities in constituencies in which the BJP fielded a candidate. Park access is defined as the share of locality area covered by parks, divided by the number of electors and multiplied by 100,000. The broad definition includes parks and related recreational spaces, while the narrow definition includes only areas classified specifically as parks; Section 2.3 provides the complete definitions. Economic, infrastructure, and locality controls comprise rental value, physical infrastructure, locality characteristics, economic status, and the number of schools. Demographic controls comprise the proportions of Scheduled Castes, literate residents, employed residents, Hindus, Muslims, Sikhs, and Christians, as well as the sex ratio. All specifications include zone fixed effects. Heteroskedasticity-robust standard errors are reported in parentheses. ***, **, and * denote statistical significance at the 1, 5, and 10 percent levels, respectively.

Table 2—Association between Park Access and Electoral Outcomes

	Vote Share				
	AAP	INC+	INC	Other	Turnout
Park access *(Broad)*	−0.1209***	0.0154	0.0148	−0.0080	−0.0048
	(0.0347)	(0.0163)	(0.0167)	(0.0089)	(0.0162)
Observations	117	117	116	117	117
Mean of dependent variable	0.5350	0.0483	0.0485	0.0182	0.6195
Zone fixed effects	Yes	Yes	Yes	Yes	Yes
Controls:					
Rental value	Yes	Yes	Yes	Yes	Yes
Physical infrastructure	Yes	Yes	Yes	Yes	Yes
Locality characteristics	Yes	Yes	Yes	Yes	Yes
Economic status	Yes	Yes	Yes	Yes	Yes
Number of schools	Yes	Yes	Yes	Yes	Yes
Proportion of scheduled castes	Yes	Yes	Yes	Yes	Yes
Proportion literate	Yes	Yes	Yes	Yes	Yes
Proportion employed	Yes	Yes	Yes	Yes	Yes
Sex ratio	Yes	Yes	Yes	Yes	Yes
Proportion of Hindus	Yes	Yes	Yes	Yes	Yes
Proportion of Muslims	Yes	Yes	Yes	Yes	Yes
Proportion of Sikhs	Yes	Yes	Yes	Yes	Yes
Proportion of Christians	Yes	Yes	Yes	Yes	Yes

Notes: Each column reports a separate OLS regression using locality-level data from the 2020 Delhi Assembly election. The dependent variables are the vote shares of the Aam Aadmi Party (AAP), the Indian National Congress-led electoral alliance (INC+), the Indian National Congress (INC), and other parties and candidates in columns (1)–(4), respectively, and voter turnout in column (5). The sample in column (3) is restricted to localities in constituencies in which the INC fielded a candidate. Turnout is defined as total votes cast divided by the number of registered electors. Park access is defined as the share of locality area covered by parks, divided by the number of electors and multiplied by 100,000. The table uses the broad measure, which includes parks and related recreational spaces; see Section 2.3. The sample includes localities for which polling-booth-level electoral data, demographic characteristics from the 2011 Census, and measures of economic affluence, infrastructure, and colony characteristics from the Fifth Municipal Valuation Committee of Delhi are available. All specifications include zone fixed effects and the controls listed in the table. Heteroskedasticity-robust standard errors are reported in parentheses. ***, **, and * denote statistical significance at the 1, 5, and 10 percent levels, respectively.

The 1962 Master Plan was Delhi's first comprehensive post-independence land-use plan. Prepared by the Delhi Development Authority (DDA), with technical assistance from a Ford Foundation planning team, the Plan designated land uses across the city, including residential, commercial, industrial, recreational, and public/semi-public uses. A central objective of the Plan was to guide Delhi's urban expansion through planned neighborhoods with access to basic services and open spaces. Importantly, these allocations were made decades before contemporary electoral competition in Delhi. They predate the rise of the Bharatiya Janata Party (BJP) as a major political force in the city and the emergence of the Aam Aadmi Party (AAP).

Our instrument is based on land classified as *Recreational* in the 1962 Master Plan. This category includes District Parks, Playgrounds, Open Spaces, Semi-Public Recreation, and Regional Parks. We digitize and georeference the proposed land-use map and aggregate recreational allocations to the spatial units used in our analysis. We then construct planned recreational access using the same normalization as our contemporary park-access measure:

$$\textit{Planned Recreational Access}_i = \left(\frac{\textit{Planned Recreational Area}_i}{\textit{Locality Area}_i}\right) \times \left(\frac{100,000}{\textit{Electors}_i}\right).$$

We use this measure as an instrument for contemporary park access. The identifying assumption is that, conditional on observable characteristics, historical recreational allocations affect contemporary political outcomes only through their effect on access to civic space. A potential concern is that the 1962 Plan may have reflected pre-existing neighborhood characteristics that are themselves related to later political outcomes. For example, recreational allocations may have been concentrated in areas with particular demographic compositions or political preferences.

We examine this concern in two ways. First, we test whether planned recreational allocations predict electoral outcomes before the implementation of the 1962 Master Plan. We use the 1951 Delhi election, the earliest available election before the Plan, and examine whether planned recreational allocations predict the vote shares of the Bharatiya Jana Sangh (BJS), the political predecessor of the BJP, and the Indian National Congress (INC). Appendix Table A4 reports these results. Planned recreational land allocations are not significantly associated with either BJS or INC vote shares in the common 36-constituency sample. This conclusion is unchanged when the BJS analysis is restricted to the 24 constituencies in which the party fielded a candidate. Planned allocations also do not predict whether the BJS contested a

constituency.[32] Taken together, these results provide no evidence that planned recreational allocations systematically targeted constituencies with pre-existing partisan differences.

Second, we examine whether planned recreational land allocations were associated with demographic characteristics measured in the 1951 Census. Appendix Table A5 reports regressions of each predetermined characteristic on planned recreational allocations. We find no systematic relationship between planned allocations and caste composition, literacy, employment, sex ratio, or religious composition. The only individually significant association is with the Christian population share, which accounted for approximately 1.55% of the population in 1951 and is no longer statistically significant after adjusting for multiple testing.[33] Combined with the absence of significant associations with pre-treatment electoral outcomes, these results provide no evidence that the 1962 recreational allocations systematically reflected observable demographic or political characteristics that predated the Plan.

The placebo and balance tests above use historical electoral and demographic data that are available only at the constituency level and therefore cannot be incorporated into the locality-level 2020 IV specification. Our identifying assumption is that, conditional on the included controls and fixed effects, historical recreational land allocations affect contemporary political outcomes only through their effect on contemporary civic space. We therefore include the same set of contemporary demographic, socioeconomic, and infrastructure controls used in the OLS specifications. These controls account for observable characteristics that may be correlated with both historical planning decisions and contemporary political outcomes, allowing us to compare neighborhoods with similar demographic composition, socioeconomic characteristics, and infrastructure provision.

The sample size falls from 117 to 110 localities when we use IV specification because planned recreational area from the 1962 Master Plan could not be reliably matched for seven localities due to incomplete spatial coverage in the digitized historical map.[34] We estimate the following first-stage equation:

$$\textit{Park Access}_i = \pi_0 + \pi_1 \textit{Planned Recreational Access}_i + X_i'\gamma + \lambda_z + \epsilon_i, \tag{2}$$

[32]These placebo tests necessarily use a smaller sample than our main analysis. Moreover, the estimated coefficient for BJS vote share changes sign between the full and contested-only samples. We therefore interpret these results as supporting rather than definitive evidence for the validity of the instrument.

[33]The Christian-share coefficient does not remain statistically significant after a Bonferroni correction across the eight demographic outcomes.

[34]This is because 1962 Plan does not cover all of contemporary Delhi. Our OLS estimates for the 117 and 110 sample are similar in magnitude and statistical significance, reducing concern about sensitivity to the sample restriction.

where *Park Access*$_i$ is contemporary park access, *Planned Recreational Access*$_i$ is the instrument constructed from the 1962 Master Plan, X_i includes demographic, economic, infrastructure, and locality controls described above, and λ_z denotes zone fixed effects. Locality-level electorate counts are unavailable for 1962. We therefore normalize planned recreational area using a locality-level 1962 electorate estimated by linearly interpolating between electorate counts for 1951 and 2020.[35] The results are also robust to defining the instrument as planned recreational area share, without electorate normalization, and controlling for the natural log of number of electors; see Panel A of Table A9.

The first-stage estimates are reported in column (1) of Table 3. Planned recreational access strongly predicts contemporary park access, with a Kleibergen–Paap rk Wald F-statistic of 116.434. We then estimate the second-stage equation:

$$Y_i = \beta_0 + \beta_1 \widehat{Park\ Access}_i + X_i'\gamma + \lambda_z + u_i, \tag{3}$$

where Y_i represents party vote shares. The instrumental variables estimates are reported in columns (3) and (5) of Table 3.[36] The IV estimate for BJP+ vote share is larger than the corresponding OLS estimate, while the estimated relationship with AAP vote share is negative. The IV estimates imply that a one-standard-deviation increase in park access increases BJP+ vote share by approximately 1.92 percentage points.[37]

The historical balance and placebo tests reduce the concern that planned allocations reflected pre-existing observable demographic or partisan differences, while the contemporary controls account for observable differences across neighborhoods today. Nevertheless, these tests and controls cannot rule out every alternative channel through which the 1962 Plan may

[35]Electorate counts for the 1951 election are available only at the level of the 42 Assembly Constituencies (ACs) that existed at the time. To obtain electorate counts in 1951 for our contemporary localities, we spatially overlay the boundaries of these 42 ACs with the locality boundaries and allocate each AC's electorate across the localities with which it intersects in proportion to the areas of intersection. We denote the resulting spatially allocated locality-level electorate by $\widehat{Electors} * i, 1951$. We then estimate the locality-level electorate in 1962 by linearly interpolating in levels between this spatially allocated 1951 estimate and the observed locality-level electorate in 2020: $\widehat{Electors}_{i,1962} = \frac{2020-1962}{2020-1951} \times \widehat{Electors}_{i,1951} + \frac{1962-1951}{2020-1951} \times Electors_{i,2020} \implies \widehat{Electors}_{i,1962} = \frac{58}{69} \times \widehat{Electors}_{i,1951} + \frac{11}{69} \times Electors_{i,2020}$. The weights therefore reflect the relative temporal distance of 1962 from the two endpoint years. Because the interpolation partly uses the 2020 electorate, planned recreational allocations could potentially have affected the resulting denominator. In locality-level regressions with zone fixed effects, however, planned recreational share, measured in percentage points, is not significantly associated with either the interpolated 1962 electorate (coefficient = 203.59; heteroskedasticity-robust standard error = 159.69; N = 110) or the 2020 electorate (coefficient = 426.24; heteroskedasticity-robust standard error = 461.20; N = 110).

[36]Table A6 reports the results for narrow measure of Park access.

[37]The sample standard deviation for N = 110 is 0.161. For the effect on vote share for parties other than BJP+ and AAP, see Table A7 and Table A8.

have affected subsequent political outcomes. Under the identifying assumptions described above, including the exclusion restriction that planned recreational allocations affect contemporary electoral outcomes only through contemporary park access, the 2SLS estimate can be interpreted as a local average effect of increases in park access induced by historically planned recreational allocations. It therefore captures the political consequences of the variation in civic infrastructure generated by the 1962 planning designations, rather than the average effect of all possible changes in park access across Delhi.

Robustness to alternate measures of Park access. Our baseline measure of park access captures both the spatial intensity of civic space and the number of electors sharing that space. A potential concern is that the relationship between planned recreational access and contemporary park access could partly reflect the common normalization by electorate size rather than the predictive power of the 1962 Master Plan allocations. To address this concern, we examine whether the results are robust to alternative measures that do not normalize by electors. First, we measure contemporary park access as park area in 2020 divided by total locality area, and planned recreational access as planned recreational land-use in 1962 divided by total locality area. We then estimate equations 2 and 3 controlling additionally for the natural logarithm of the number of electors and population density, which capture differences in locality scale and population pressure. The relationship between contemporary park access and BJP+ vote share remains positive and statistically significant in both OLS and IV specifications (Panel A, Table A9). The effect size of this park share measure estimates imply that a one-standard-deviation increase in park share of locality area increases BJP+ vote share by approximately 2.3 percentage points.[38] We obtain similar results when measuring park access using absolute park area (Panel B, Table A9) or park area normalized by the number of electors (Panel C, Table A9).[39]

3.3 Assembly Constituency Panel Evidence

The locality-level analysis provides a high-resolution test of the relationship between civic infrastructure and electoral outcomes. However, the RSS locality sample does not cover all of Delhi. The 117 localities used in the main analysis account for 71.48 percent of the city's electorate. Although this represents over 10 million voters, it raises the question of whether the documented relationship between park access and electoral outcomes extends beyond

[38]The standard deviation for Park share measure in the $N = 110$ is 0.065.

[39]For narrow measure of parks see, Table A10.

Table 3—Park Access and Party Vote Shares in the 2020 Delhi Assembly Election: OLS and 2SLS Estimates

	Park Access	BJP+ Vote Share		AAP Vote Share	
	First Stage	OLS	2SLS	OLS	2SLS
	(1)	(2)	(3)	(4)	(5)
Park access *(Broad)*		0.113***	0.119***	−0.119***	−0.097**
		(0.036)	(0.040)	(0.034)	(0.043)
1962 planned recreational access	0.081***				
	(0.007)				
Observations	110	110	110	110	110
Kleibergen–Paap rk Wald F-statistic	116.434				
Mean of dependent variable	0.096	0.397	0.397	0.534	0.534
Zone fixed effects	Yes	Yes	Yes	Yes	Yes
Controls:					
Rental value	Yes	Yes	Yes	Yes	Yes
Physical infrastructure	Yes	Yes	Yes	Yes	Yes
Locality characteristics	Yes	Yes	Yes	Yes	Yes
Economic status	Yes	Yes	Yes	Yes	Yes
Number of schools	Yes	Yes	Yes	Yes	Yes
Proportion of scheduled castes	Yes	Yes	Yes	Yes	Yes
Proportion literate	Yes	Yes	Yes	Yes	Yes
Proportion employed	Yes	Yes	Yes	Yes	Yes
Sex ratio	Yes	Yes	Yes	Yes	Yes
Proportion of Hindus	Yes	Yes	Yes	Yes	Yes
Proportion of Muslims	Yes	Yes	Yes	Yes	Yes
Proportion of Sikhs	Yes	Yes	Yes	Yes	Yes
Proportion of Christians	Yes	Yes	Yes	Yes	Yes

Notes: Column (1) reports the first-stage regression of contemporary broad park access on planned recreational access from the 1962 Delhi Master Plan. Columns (2)–(5) report OLS and 2SLS estimates for BJP+ and AAP vote shares in the 2020 Delhi Assembly election. BJP+ combines votes received by the BJP and its electoral alliance partners, the Janata Dal (United) and the Lok Janshakti Party. Broad park access is defined as the share of locality area covered by parks and other civic recreational spaces, normalized by 100,000 electors, using the broad definition described in Section 2.3. Planned recreational access is constructed analogously using land designated as recreational in the 1962 Master Plan, including district parks, playgrounds, open spaces, semi-public recreation, and regional parks. The sample comprises the 110 localities for which contemporary park access, electoral outcomes, demographic controls, and planned recreational allocations are available. S.D of Park access for $N = 110$ is 0.161. The Kleibergen–Paap rk Wald F-statistic is reported in column (1). All specifications include zone fixed effects and the controls listed in the table. Heteroskedasticity-robust standard errors are reported in parentheses. ***, **, and * denote significance at the 1, 5, and 10 percent levels, respectively.

the localities included in our locality-level data. To address this concern, we construct an assembly constituency-level panel covering all Delhi Assembly constituencies for the elections held after the 2008 delimitation: 2008, 2013, 2015, and 2020.

The constituency panel also addresses a different concern with the locality-level cross-sectional results. While the IV specification addresses concerns regarding reverse causality under the identifying assumptions described above, localities with greater park access may still differ from other areas in persistent geographic characteristics that are difficult to observe, such as partition-era settlement patterns, long-run urban development, or historical political preferences. By including assembly constituency fixed effects, the panel specification absorbs all time-invariant characteristics of constituencies. The estimates therefore exploit changes in measured park access and party vote shares across elections within the same constituency.

We estimate the following specification:

$$VoteShare_{it} = \beta ParkAccess_{it} + \alpha_i + \gamma_t + X'_{it}\delta + \epsilon_{it},$$

where $VoteShare_{it}$ denotes the vote share of the relevant party in assembly constituency i in election year t, $ParkAccess_{it}$ is contemporary park access normalized by the number of electors, α_i represents assembly constituency fixed effects, γ_t represents election-year fixed effects, and X_{it} includes time-varying demographic controls.[40] Time-varying demographic controls are constructed using Census of India data. Since the Census is conducted decennially, demographic characteristics from the 2001 Census are used for the 2008 election and characteristics from the 2011 Census are used for the 2013, 2015, and 2020 elections. The BJP+ specifications include these time-varying demographic controls. The corresponding controls are not applicable for the AAP specifications because AAP first contested the Delhi Assembly election in 2013 and therefore does not have an observation for the 2008 election. Standard errors are clustered at the assembly constituency level.

The first column of Table 4 estimates this specification without allowing the relationship between parks and electoral outcomes to vary across elections. Park access is positively associated with BJP+ vote share: an increase equal to one pooled standard deviation of park access (0.0246) is associated with an approximately 2.79-percentage-point increase in BJP+ vote share.[41] The magnitude is comparable to, although slightly larger than, the locality-level estimates, suggesting that the positive relationship between civic infrastructure and BJP

[40] Park area for the 2008 and 2013 elections is measured using the 2015 OSM snapshot, as described in Section 2.

[41] For results with Narrow measure see Table A11.

support is not driven only by the RSS locality sample.

One reason why the relationship between parks and electoral outcomes might exist is because the availability of civic spaces lowers the costs of collective action, and thus the partisan consequences of these spaces may depend on which political actors are capable of mobilizing through them. While the RSS maintains grassroots-level *shakhas* that provide an established organizational channel for BJP mobilization through public spaces, the India Against Corruption movement of 2011–2013 created a temporary organizational channel through which the emerging AAP could also mobilize in civic spaces. This episode therefore provides an opportunity to examine whether the relationship between civic infrastructure and electoral support depends on the broader organizational environment.

To examine this possibility, we interact park access with an indicator for the 2013 election. The results are reported in columns (2) and (4). For BJP+, the interaction term is negative and statistically significant, indicating that the positive association between parks and BJP+ vote share substantially weakened in 2013. The point estimate for 2013 is near zero, indicating that the positive association between park access and BJP+ vote share observed in other elections was substantially reduced during the 2013 election. For AAP, the interaction term is positive and statistically significant, showing that constituencies with greater park access experienced a relative increase in support for AAP during its first electoral contest. Appendix Table A12 further shows that this change coincided with a decline in the association between park access and support for INC and other smaller parties.[42]

Appendix Table A14 reports a more flexible specification allowing the park–vote share relationship to vary separately by election year.[43] Consistent with the results above, the positive association between park access and BJP+ vote share is strongest before AAP's emergence, weakens in 2013, and becomes positive again in 2015. In contrast, park access is positively associated with AAP vote share specifically in 2013, with this association substantially weakening in 2015 after AAP transitioned from a new entrant emerging from an anti-corruption movement into an established electoral competitor.

These results are consistent with the interpretation that civic infrastructure provides adaptable organizational capacity rather than a fixed partisan advantage. Outside the 2013 election, park access was positively associated with BJP+ support, consistent with the ability of established grassroots organizations such as the RSS to use public spaces for mobilization. In 2013, when a new political actor emerged from a public-space-based anti-corruption movement, the relationship shifted toward AAP. The panel estimates therefore complement the

[42]For results with Narrow measure see Table A13.

[43]For results with Narrow measure see Table A15.

locality-level results by showing that the partisan association of civic infrastructure varies with the relative capacity of political organizations to mobilize in these spaces.

Table 4—Park Access and Party Vote Shares across Delhi Assembly Elections: Assembly-Constituency Panel Estimates

	BJP+ Vote Share		AAP Vote Share	
	(1)	(2)	(3)	(4)
Park access *(Broad)*	1.1376*	1.3530**	0.0486	−0.6000
	(0.5963)	(0.6524)	(0.7752)	(0.6920)
Park access × 2013		−1.0745***		1.9805***
		(0.3293)		(0.5993)
Observations	280	280	210	210
Assembly constituency fixed effects	Yes	Yes	Yes	Yes
Election year fixed effects	Yes	Yes	Yes	Yes
Controls	Yes	Yes	-	-
Mean of dependent variable	0.3566	0.3566	0.4605	0.4605

Notes: Columns (1) and (2) report estimates for BJP+ vote share, while columns (3) and (4) report estimates for AAP vote share. BJP+ denotes the vote share of the BJP-led electoral alliance. It combines votes received by the BJP and its seat-sharing partners: the Shiromani Akali Dal (SAD) in 2008, 2013, and 2015, and the Janata Dal (United) and Lok Janshakti Party in 2020. SAD-affiliated candidates who contested on the BJP symbol are recorded as BJP candidates in the election returns. All specifications include assembly-constituency and election-year fixed effects. Delhi has 70 assembly constituencies, yielding 280 constituency-election observations for BJP+ across the elections held in 2008, 2013, 2015, and 2020, and 210 observations for AAP across the elections held in 2013, 2015, and 2020. Park access is measured as the share of constituency area covered by parks multiplied by 100,000 and divided by the election-specific number of electors. Park area from the 2015 OSM snapshot is used for the 2008, 2013, and 2015 elections, while park area from the 2020 OSM snapshot is used for the 2020 election. Columns (2) and (4) interact park access with an indicator for the 2013 election. In these columns, the coefficient on park access captures the association in elections other than 2013, while the interaction coefficient captures the differential association in 2013. Columns (1) and (2) include time-varying controls for the proportion of Scheduled Castes, proportion literate, proportion employed, and sex ratio. Demographic characteristics from the 2001 Census are used for the 2008 election, while characteristics from the 2011 Census are used for the 2013, 2015, and 2020 elections. Because the AAP sample begins in 2013, these controls do not vary within constituencies over the AAP sample period and are therefore absorbed by the assembly-constituency fixed effects. Standard errors clustered at the assembly-constituency level are reported in parentheses. ***, **, and * denote significance at the 1, 5, and 10 percent levels, respectively.

4 Mechanisms and Robustness Checks

In this section, we first discuss evidence consistent with the interpretation that park access affects electoral outcomes by providing accessible civic spaces for political organization

and collective action. We then examine whether the results may instead be explained by residential or demographic sorting. Finally, we present additional robustness checks.

4.1 Mechanisms: Civic Infrastructure as Spaces for Political Organization and Collective Action

The results above suggest that public parks affect electoral outcomes by changing the capacity of political organizations to operate at the neighborhood level. The central idea is not that parks directly determine political preferences, but that they provide low-cost and accessible spaces for repeated collective activity. Such spaces can support established organizations with existing grassroots networks, while also allowing new political actors to build organizational capacity during periods of political change.

We examine two pieces of evidence consistent with this interpretation. First, we study whether park access is associated with the presence of RSS *shakhas*, which provide a measure of recurring neighborhood-level organizational activity. Second, we examine whether park access is associated with the spatial distribution of India Against Corruption (IAC) protests in Delhi. Together, these results suggest that parks function as general-purpose civic infrastructure that can facilitate political organization by different actors depending on the prevailing political environment.

Civic Infrastructure and RSS Organizational Presence The RSS *shakha* is a particularly relevant measure of local organizational capacity because it requires a regular physical meeting space. Unlike political communication that can occur through households, media, or digital networks, *shakhas* involve recurring neighborhood gatherings with physical activities, group exercises, and discussions. Public parks therefore provide an accessible and low-cost setting for sustaining such organizational activity.

We estimate the following specification:

$$Shakha_i = \beta ParkAccess_i + \alpha_z + X_i'\gamma + \epsilon_i,$$

where $Shakha_i$ denotes the number of RSS *shakhas* per 100,000 electors in locality i, $ParkAccess_i$ measures contemporary park access, α_z represents zone fixed effects, and X_i includes the demographic, economic, and infrastructure controls described earlier.

Table 5 reports the results.[44] Columns (1) and (2) show that localities with greater

[44]For narrow measure, see Table A16

park access have substantially more RSS *shakhas*. The relationship remains similar when restricting the sample to localities with historical park allocation data. Column (3) shows that the 1962 Master Plan recreational allocations strongly predict contemporary park access, and column (4) uses this historical variation to estimate the relationship between park access and RSS presence. The IV estimate remains positive and statistically significant. A one-standard-deviation increase in park access generates approximately 4.14 additional RSS shakhas per 100,000 electors, a 21.3 percent increase relative to the mean.[45] Given that an average shakha in Delhi comprised around 65 members in 2019, this implies approximately 269 additional members.[46] These results are consistent with the interpretation that access to civic space increases the feasibility of sustaining neighborhood-level organizational activity.

However, if parks are general-purpose civic infrastructure, they should not only facilitate organizations already possessing established networks. Importantly, these estimates do not imply that parks exclusively benefit one political actor. Rather, they demonstrate that established organizations with a physical grassroots structure can use civic spaces for recurring mobilization. The electoral relevance of such spaces depends on which political actors possess the organizational capacity to use them at a given point in time.

Civic Infrastructure and Protest Mobilization. The RSS evidence shows how civic spaces can support established organizations with persistent local networks. The India Against Corruption movement provides a complementary setting in which a new political actor used public spaces to build organizational capacity. If parks represent general-purpose civic infrastructure rather than spaces tied to a particular political ideology, they should also be associated with mobilization by actors outside established party networks.

To examine this possibility, we use the newspaper-based measure of IAC mobilization

[45] Under classical homoskedastic assumptions, the standard error of an instrumental variables (IV) estimator is mathematically guaranteed to exceed that of Ordinary Least Squares (OLS) due to the variance inflation penalty from the first-stage R^2, such that $SE_{IV} \approx SE_{OLS}/\sqrt{R^2_{\text{First Stage}}}$. Our non-robust estimates adhere strictly to this rule. However, when specifying heteroskedasticity-robust standard errors, this relationship flips, and the IV standard error becomes slightly lower than OLS (5.90 versus 6.20). This phenomenon arises because the Huber-White robust sandwich estimator evaluates the localized interaction between squared residuals and the variance of the independent variable, scaled by $\sum X_i^2 e_i^2$. In the OLS specification, endogenous noise and localized leverage points heavily coincide with high-variance residuals, inflating the robust standard error. By projecting modern park proportions onto the historical 1962 instrument, the first stage effectively smooths out these extreme, endogenous leverage points. Stripping away this variance-inflating noise from the treatment variable reduces the middle layer of the robust sandwich estimator, resulting in a legitimate efficiency gain under the robust specification.

[46] The average RSS Delhi membership was shared by the organization during our fieldwork and data collection exercise in 2019.

Table 5—Park Access and RSS Shakha Activity: OLS and Instrumental Variables Estimates

	RSS Shakha Rate		Park Access	RSS Shakha Rate
	OLS	OLS	First Stage	2SLS
	(1)	(2)	(3)	(4)
Park access *(Broad)*	25.728***	24.877***		25.558***
	(6.861)	(6.731)		(6.057)
1962 planned recreational access			0.080***	
			(0.008)	
Observations	111	104	104	104
Kleibergen–Paap rk Wald F-statistic			111.508	
Mean of dependent variable	18.910	19.404	0.093	19.404
Zone fixed effects	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes

Notes: Columns (1), (2), and (4) use the number of RSS *shakhas* per 100,000 electors as the dependent variable. Columns (1) and (2) report OLS estimates. Column (1) uses the full sample, while column (2) restricts the sample to localities with 1962 Master Plan recreational land-allocation data. Column (3) reports the first-stage regression of contemporary park access on planned recreational access from the 1962 Delhi Master Plan. Column (4) reports the corresponding 2SLS estimate. Contemporary park access is measured as the share of locality area covered by parks under the broad definition multiplied by 100,000 and divided by the number of electors. The instrument is constructed analogously using land designated as recreational in the 1962 Master Plan. The standard deviation of Park access for $N = 104$ is 0.162. All specifications include zone fixed effects and controls for rental value, physical infrastructure, locality characteristics, economic status, the number of schools, the proportion of scheduled castes, literacy, employment, sex ratio, and the proportions of Hindus, Muslims, Sikhs, and Christians. The Kleibergen–Paap rk Wald F-statistic is reported in column (3). Heteroskedasticity-robust standard errors are reported in parentheses. ***, **, and * denote significance at the 1, 5, and 10 percent levels, respectively.

described earlier. The dependent variable is an indicator equal to one if an assembly constituency contains at least one newspaper-documented IAC protest location between January 2011 and December 2013. Because this measure captures whether mobilization occurred in a constituency rather than the intensity or duration of protests, we interpret it as evidence on the extensive margin of public-space-based political activity.

We estimate linear probability models of the form:

$$Protest_i = \beta ParkAccess_i + X_i'\gamma + \epsilon_i.$$

Table 6 reports the results. Constituencies with greater park access are significantly more likely to contain a documented protest location. The relationship remains similar after including demographic controls and is robust to alternative definitions of civic space. A one-standard-deviation increase in constituency park access is associated with a 13-percentage-point higher probability of hosting a documented protest location. These results are consistent with the interpretation that parks provide accessible locations for collective political activity beyond the established organizational networks of the RSS.

Taken together, the evidence from RSS *shakhas* and IAC protests suggests that parks provide organizational capacity that can be used by different political actors. The electoral consequences of civic infrastructure therefore depend on which organizations are capable of mobilizing through these spaces at a given point in time. This interpretation explains why park access is associated with BJP+ support in elections before AAP's emergence, but the relationship shifts toward AAP when a new movement-based organization enters electoral competition. These results suggest that parks provide organizational capacity rather than a fixed partisan advantage. The next subsection examines alternative explanations and robustness checks, including whether the results are driven by changes in demographic composition, changes specific definitions of civic space, or other neighborhood characteristics.

4.2 Alternative Explanations and Robustness

The mechanism evidence suggests that civic infrastructure provides physical spaces that can facilitate political organization and collective action. However, an alternative interpretation is that parks proxy for other neighborhood characteristics that influence political outcomes. Park-rich neighborhoods may differ systematically in demographic composition, socioeconomic characteristics, historical patterns of urban development, or access to other forms of organizational infrastructure. We examine these concerns through a series of robustness exer-

Table 6—Park Access and Documented India Against Corruption Protest Locations

	Documented IAC Protest Presence			
	(1)	(2)	(3)	(4)
Park access *(Broad)*	5.4146***	5.3220**		
	(1.9228)	(2.3614)		
Park access *(Narrow)*			5.4065***	5.2894**
			(1.9822)	(2.4210)
Observations	70	54	70	54
Census controls	No	Yes	No	Yes
Mean of dependent variable	0.3714	0.3889	0.3714	0.3889

Notes: The dependent variable is an indicator equal to one if an assembly constituency contains at least one newspaper-documented India Against Corruption (IAC) protest location during the period from 2011 through December 3, 2013. It captures the extensive margin of documented protest presence and does not measure protest frequency or intensity. All columns report linear probability models. Columns (1) and (2) use the broad definition of park access, while columns (3) and (4) use the narrow definition. Park access is measured as the share of assembly-constituency area covered by parks multiplied by 100,000 and divided by the number of electors. The broad and narrow park measures are defined in Section 2.3. Columns (2) and (4) include controls from the 2011 Census for the proportion of scheduled castes, proportion literate, proportion employed, sex ratio, and the proportions of Hindus, Muslims, Sikhs, and Christians. One or more of these controls could not be constructed for 16 constituencies, reducing the controlled sample to 54 constituencies. Heteroskedasticity-robust standard errors are reported in parentheses. ***, **, and * denote significance at the 1, 5, and 10 percent levels, respectively.

cises. First, we examine whether park access is related to persistent demographic differences or differential demographic change over time. Second, we distinguish civic recreational spaces from alternative forms of green space and religious infrastructure that may provide competing explanations for the observed relationship. Finally, we examine whether the results are sensitive to controlling for population density and to allowing for spatial correlation in inference.

A first concern is that areas with greater park access may differ because of persistent demographic composition. Demographic characteristics in urban neighborhoods often evolve slowly, so cross-sectional differences between park-rich and park-poor areas may partly reflect long-standing residential sorting rather than the effect of contemporary civic infrastructure. Appendix Table A18 documents the persistence of relative demographic composition across Delhi Assembly constituencies. The Spearman rank correlations between 2001 and 2011 are high for both socioeconomic characteristics and religious composition. The correlations for literacy, employment, and scheduled caste composition are 0.90, 0.91, and 0.89, respectively, while those for major religious groups range from 0.80 to 0.92. Although these correlations do not imply that demographic levels remained unchanged, they indicate substantial persistence in the relative demographic geography of Delhi. Motivated by this concern, our OLS and IV specifications include observable demographic and socioeconomic characteristics. These controls cannot eliminate sorting on unobserved characteristics, but assembly-constituency fixed effects in the panel specifications additionally absorb unobserved time-invariant differences, including historical settlement patterns.

However, demographic characteristics may evolve in ways correlated with contemporary park access or historical recreational land-use allocations. To examine this possibility, Appendix Table A19 regresses changes in demographic characteristics between 2001 and 2011 on alternative contemporary and planned park measures. Because the contemporary park measures are observed after 2011, these regressions are descriptive: they test whether areas that subsequently had greater park access were already experiencing different demographic trajectories. Across specifications, the estimates reveal no systematic relationship between park measures and changes in socioeconomic or religious composition, and no coefficient remains statistically significant after adjusting for multiple testing. Although these results do not rule out residential sorting, they provide little evidence that park-rich areas experienced systematically different demographic changes during the decade preceding our electoral analysis. Moreover, the sharp weakening of the park–BJP relationship in 2013 and its subsequent strengthening in 2015 are less readily explained by slow-moving demographic sorting alone.

We next examine whether the results reflect other forms of neighborhood organizational infrastructure. Religious institutions represent a potentially important alternative channel because they can provide spaces for social interaction and political mobilization. In particular, previous research has shown that religious organizations can influence political participation and party organization (Grewal, 2025). Using OpenStreetMap data, we therefore control for the number of temples in a locality when estimating the relationship between park access and BJP+ vote share and shakha presence. The results remain substantively unchanged (Tables A20 and A21), suggesting that the relationship between parks and political organization is not simply capturing differences in the presence of religious infrastructure.

Another concern is that measured park access may capture the broader availability of undeveloped or green land rather than civic spaces suited to public interaction. To examine this possibility, Appendix Table A22 compares recreational civic spaces with alternative categories of green land. Access to both narrowly defined parks and the broader recreation category is positively associated with BJP+ vote share. By contrast, we find no statistically detectable association for agricultural land, or forests. Although differences in the distributions of these land-use categories preclude direct comparisons of coefficient magnitudes, the overall pattern suggests that the association is more specific to recreational civic spaces than to generic green coverage.

Another concern is that our measure of park access is normalized by the number of electors. Because the measure combines available park area with the population that shares these spaces, it is mechanically related to neighborhood density. We therefore re-estimate our main specifications controlling for population density. Although density is not included in the baseline specification because it is closely related to the construction of the park access measure, the inclusion of this additional control does not alter the estimated relationship between park access and BJP+ vote share or shakha presence (Tables A23 and A24).

A further concern is that civic infrastructure and political outcomes may exhibit spatial dependence. We therefore examine whether inference is sensitive to allowing for spatial correlation across nearby constituencies. Appendix Table A25 and Table A26 reports estimates using Conley (1999) spatially correlated standard errors. The results remain similar when allowing errors to be correlated across geographic units, indicating that the statistical significance of the main findings is not driven by the conventional clustering scheme.

Finally, potential georeferencing errors could assign polling booths—and therefore their electoral returns—to the wrong localities. Of the more than 13,000 polling booths we georeferenced, 420 have coordinates that fall outside the assembly constituency to which they are

administratively assigned. Whether these discrepancies reflect small georeferencing errors near constituency boundaries or polling locations situated outside the constituencies they serve, they could introduce error when constructing locality-level electoral outcomes. We therefore reconstruct the outcomes after excluding these booths. The estimated relationship between park access and BJP+ vote share remains similar in magnitude and statistical significance under both the broad and narrow park measures (Appendix Tables A27 and A28).

Taken together, these exercises do not rule out all possible sources of unobserved heterogeneity. Rather, they provide evidence against several alternative explanations for the main relationship, including differential demographic change, generic green land, religious infrastructure, population density, spatial dependence in inference, and potential errors in geo-referencing polling stations. Combined with the IV and panel evidence, these findings are consistent with the interpretation that civic infrastructure matters because it provides accessible spaces through which organizations can build and sustain political activity.

5 Conclusion

This paper studies how the physical organization of cities can shape political organization. We use a novel dataset on civic infrastructure and political organization in Delhi to examine whether access to parks is related to electoral support. Our empirical strategy combines locality-level electoral and administrative data with predetermined recreational land-use allocations from Delhi's 1962 Master Plan. Across OLS and instrumental-variables specifications, we find a robust positive relationship between park access and support for the BJP and its allies. The relationship survives a range of controls, alternative measures of civic space, and robustness checks, while the historical land-use instrument provides evidence against concerns that the contemporary relationship is driven by endogenous park placement.

The evidence also points to a potential mechanism. Parks are not merely passive amenities: they provide accessible spaces in which organizations can meet, recruit, coordinate, and sustain regular activity. We find that localities with greater park access have more RSS *shakhas*, and this relationship is also present in the instrumental-variables estimates. The political implications of this organizational capacity, however, depend on which actors are able to use the available space. During the India Against Corruption protests in Delhi between 2011 and 2013, park access is also positively associated with the incidence of protests, providing suggestive evidence that these spaces facilitated episodes of collective

action by the movement that subsequently gave rise to AAP. In the constituency panel, the positive relationship between park access and BJP+ support weakens sharply in 2013, while park access is positively associated with AAP support. The relationship between park access and AAP support then weakens in the subsequent election as AAP transitions from a protest movement into an established electoral actor. These patterns are consistent with civic infrastructure providing an organizational resource whose political returns depend on the organizations that are able to mobilize through it.

The findings suggest a broader way of thinking about the relationship between urban development and political economy. Cities allocate substantial amounts of land to spaces that appear, at first sight, to be politically neutral: parks, squares, streets, community spaces, and other shared civic infrastructure. Yet these spaces determine where people can meet and how easily organizations can coordinate. Their political consequences may therefore depend not only on who lives in a neighborhood, but also on the physical opportunities that the urban environment provides for collective action.

This possibility is not unique to Delhi. Public spaces have played important organizational roles in episodes of political mobilization elsewhere. Tahrir Square, for example, became a central site of collective action during the Egyptian revolution, with its location and physical configuration helping facilitate the concentration and coordination of protesters. The square is connected to nine major arterial roads, illustrating how seemingly mundane features of urban design can affect the ability of large numbers of people to assemble and sustain collective action (Korany, 2014). Similarly, the occupation of Gezi Park in Istanbul illustrates how a public park can become a site for political organization and collective activity (Gül et al., 2014). Although the scale and nature of these events differ, and these examples are not directly comparable to the electoral mobilization studied here, they share a common feature with the organizational dynamics we document—the physical configuration of urban space can shape the capacity for collective action.

An important direction for future research is therefore to examine more systematically how the design and distribution of urban space affect political behavior. The relevant features may extend beyond the amount of civic space to its accessibility, connectivity, visibility, capacity, and proximity to residential communities and other public institutions. Understanding these dimensions could connect research on urban development more closely with the political economy of collective action. More broadly, our findings suggest that the built environment is not simply the backdrop against which political competition takes place. It can itself form part of the infrastructure through which political organization occurs.

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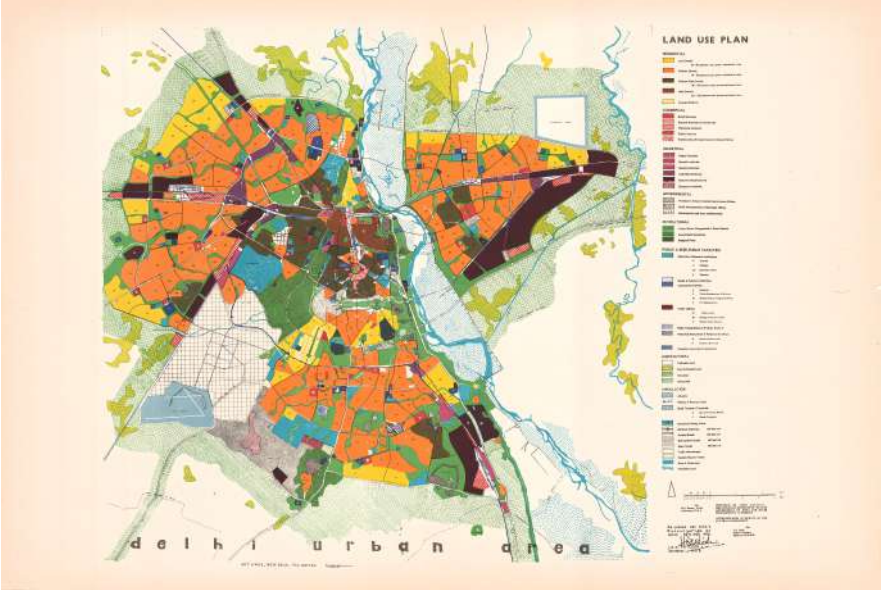
Sood, G., S. Laohaprapanon, M. Sanjeevi, and K. Tran (2018): "Parsed Indian Electoral Rolls," Harvard Dataverse, available at https://doi.org/10.7910/DVN/MUEGDT.

Vanden Eynde, O. (2018): "Targets of Violence: Evidence from India's Naxalite Conflict," *The Economic Journal*, 128, 887–916.

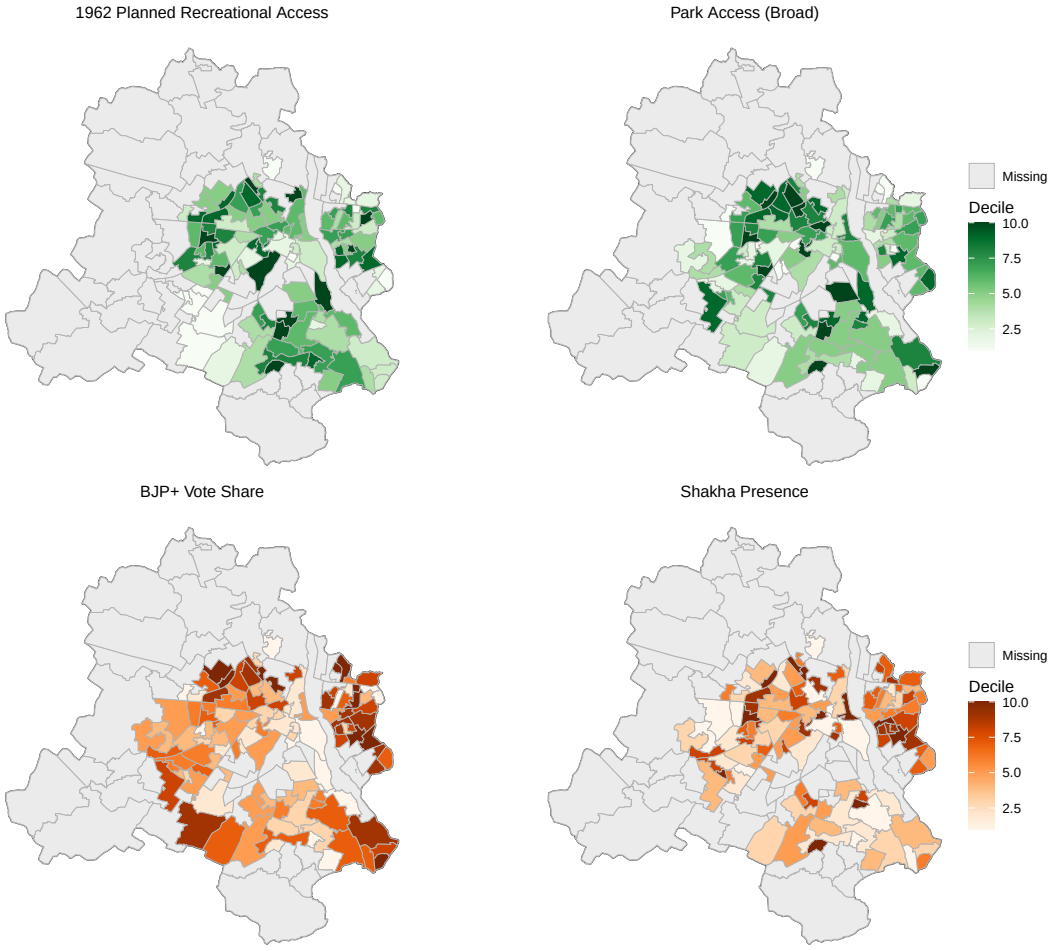
Figure A1—Predetermined Land-use Plan of Delhi, 1962



Source: https://dda.gov.in/sites/default/files/inline-files/Proposed_Land_Use_Plan_1962.pdf

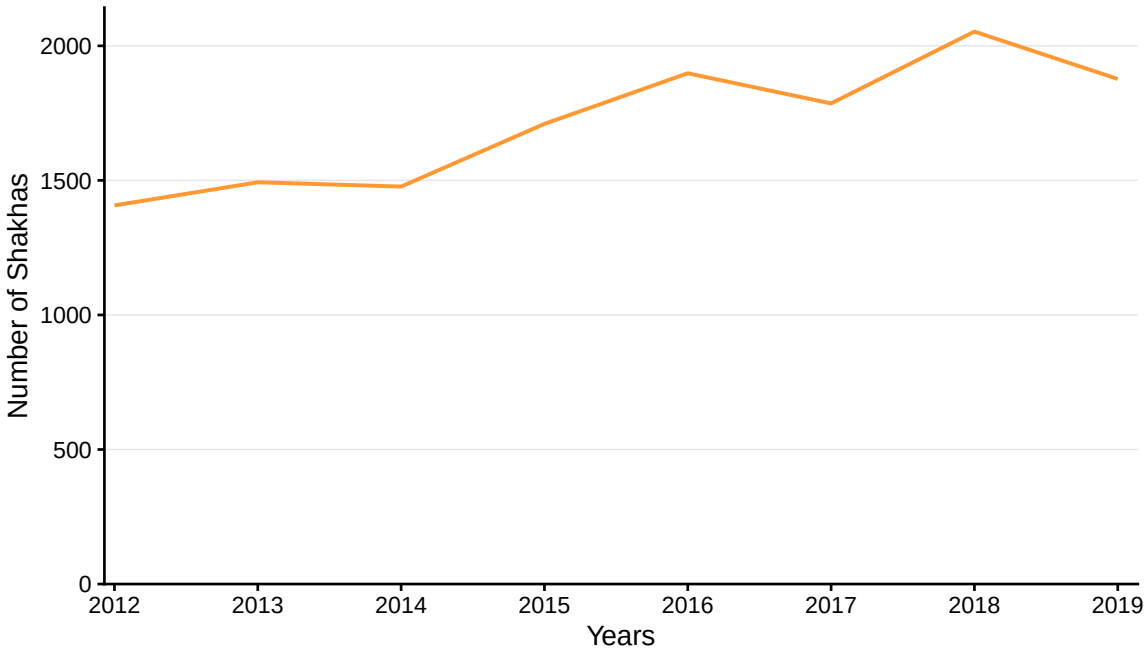
A Appendix

Figure A2—Spatial Distribution of Planned Recreational Area, Park Access, BJP+ Vote Share and RSS *Shakhas*



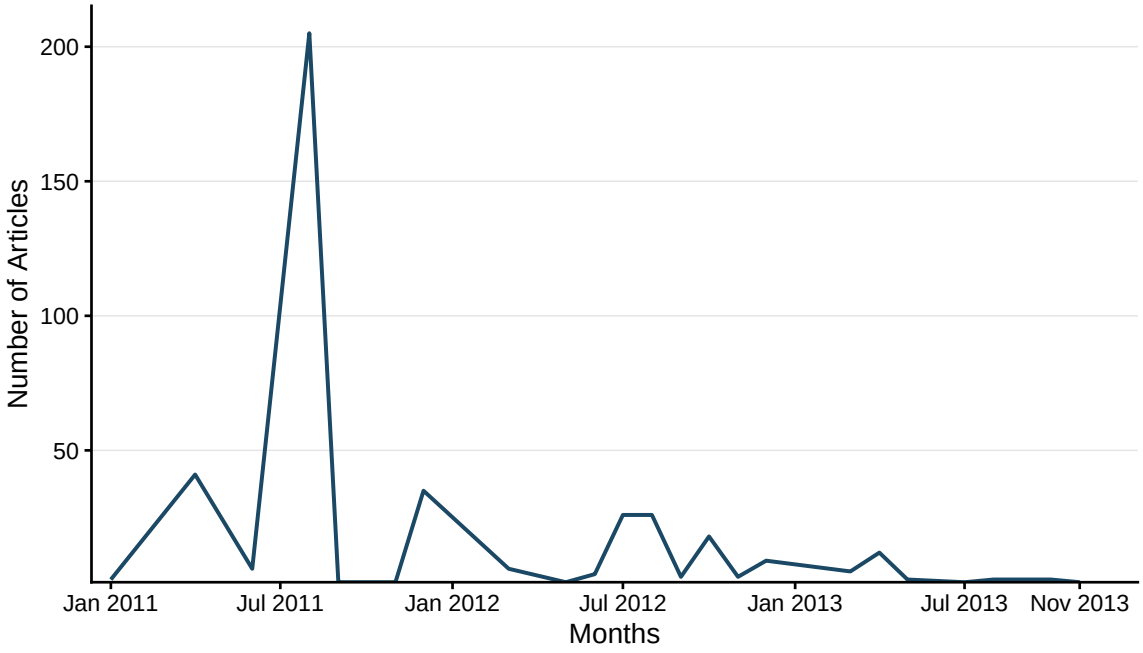
Notes: The four figures represent spatial distribution for Planned Recreational Access for 110 localities, Park Access (Broad) as defined in section 2.3 for 117 localities, vote share of BJP led alliance in the Delhi Legislative election 2020 for 117 localities, and shakha presence for 111 localities in Delhi in 2019.

Figure A3—Total RSS Shakhas in Delhi from 2012 to 2019



Source: From 2012 to 2018 the data is taken from an *India Today* article (https://www.indiatoday.in/mail-today/story/in-sangh-shine-shakhas-bloom-in-the-capital-304250-2016-01-18.) For 2019, the data was shared by the RSS organization with us.

Figure A4—Newspaper Articles on India Against Corruption Protests in Delhi



Source: Times of India archive available through LexisNexis for articles published between January 1, 2011, and December 3, 2013, the eve of the Delhi Assembly election. The search requires articles to contain at least one movement-related term and at least one protest-related term. The movement-related terms are 'Anna Hazare," 'IAC," 'India Against Corruption," 'Kejriwal," and 'AAP." The protest-related terms are 'protest," 'protests," 'candlelight," 'dharna," 'sit-in," 'andolan," 'agitation," 'demonstration," 'hunger-strike," 'fast," 'march," and "rally."

Table A1—Summary Statistics: Locality Level

	N	Mean	SD	Min	Max
Park measures — Narrow					
Park area (km^2)	117	0.2578	0.4335	0.0000	2.7899
Park share (of Locality area)	117	0.0533	0.0650	0.0000	0.3210
Park area per electors	117	3.4695	5.8585	0.0000	38.242
Park share per 100k electors	117	0.0897	0.1573	0.0000	1.2843
Park measures — Broad					
Park area (km^2)	117	0.2668	0.4403	0.0000	2.7899
Park share (of Locality area)	117	0.0550	0.0659	0.0000	0.3213
Park area per electors	117	3.5958	5.9462	0.0000	38.275
Park share per 100k electors	117	0.0920	0.1577	0.0000	1.2854
Planned Recreational Land-use (1962)					
Park area (km^2)	110	0.5929	0.8670	0.0000	5.1754
Park share (of Locality area)	110	0.1271	0.1206	0.0000	0.6643
Park area per electors	110	36.826	55.432	0.0000	453.71
Park share per 100k electors	110	1.026	1.647	0.0000	15.237
Electoral outcomes					
BJP+ vote share	117	0.3985	0.0834	0.1531	0.5674
AAP vote share	117	0.5351	0.0839	0.3077	0.7704
INC+ vote share	117	0.0483	0.0421	0.0036	0.2730
Others vote share	117	0.0182	0.0212	0.0024	0.1309
Turnout	117	0.6195	0.0456	0.4617	0.7152
Shakha presence					
Shakhas per 100k electors	111	18.910	14.294	2.953	95.447
Controls					
Annual rental value	117	3.2686	1.5686	2.0000	10.000
Physical infrastructure	117	4.1772	1.7461	2.0000	10.000
Road on which colony is located	117	3.3166	1.6100	2.0000	10.000
Type of colony	117	5.3788	2.9563	2.0000	10.000
Economic status	117	4.2110	1.6028	2.0000	10.000
Number of schools	117	4.5812	5.1816	0.0000	25.000
Proportion of scheduled castes	117	0.1778	0.0646	0.0837	0.4180
Proportion literate	117	0.7750	0.0325	0.6856	0.8408
Proportion employed	117	0.3454	0.0314	0.2791	0.4207
Sex ratio	117	1.1526	0.0488	1.0980	1.4267
Proportion of Hindus	117	0.8330	0.0858	0.3829	0.9274
Proportion of Muslims	117	0.1018	0.0904	0.0232	0.5893
Proportion of Sikhs	117	0.0410	0.0392	0.0013	0.1721
Proportion of Christians	117	0.0098	0.0074	0.0011	0.0372

Notes: The unit of observation is the RSS Locality. Park measures, electoral outcomes, and controls are measured at the assembly constituency in which each shakha is located. Hindu share is omitted from the control set as the base religion category.

Table A2—Summary Statistics: Assembly Constituency Level, 2008–2020

	N	Mean	SD	Min	Max
Park measures					
Park access (Narrow)	280	0.0189	0.0240	0.0000	0.1255
Park access (Broad)	280	0.0193	0.0246	0.0000	0.1255
Electoral outcomes					
BJP+ vote share (pooled)	280	0.3566	0.0901	0.0846	0.6267
2008	70	0.3716	0.1122	0.0934	0.6267
2013	70	0.3353	0.0809	0.0846	0.5833
2015	70	0.3271	0.07096	0.1133	0.4983
2020	70	0.3927	0.0759	0.1924	0.5755
AAP vote share (pooled)	280	0.4605	0.1397	0.1299	0.7596
2013	70	0.3005	0.0966	0.1299	0.5346
2015	70	0.5432	0.0741	0.3013	0.7061
2020	70	0.5379	0.0729	0.3733	0.7596
INC+ vote share (pooled)	280	0.19995	0.1597	0.0015	0.6425
2008	70	0.4060	0.1020	0.1478	0.6425
2013	70	0.2480	0.0813	0.0739	0.4847
2015	70	0.0987	0.0673	0.0132	0.3168
2020	70	0.0471	0.0446	0.0015	0.2142
Others vote share (pooled)	280	0.0980	0.1243	0.0076	0.6467
1951 placebo outcomes					
BJS vote share	24	0.3579	0.1081	0.1600	0.5228
INC vote share	36	0.5218	0.1081	0.3014	0.8121
1962 planned recreational land-use	36	0.6877	0.7476	0.0000	3.0867
Protest incidence					
Protest (0/1)	70	0.3714	0.4867	0.0000	1.0000
Controls (Census 2011)					
Proportion of scheduled castes	70	0.1749	0.0586	0.0980	0.3795
Proportion literate	70	0.7620	0.0328	0.6865	0.80998
Proportion employed	70	0.33699	0.0282	0.2731	0.4145
Sex ratio	70	1.1516	0.0322	1.1132	1.3053
Proportion of Hindus	54	0.8129	0.1058	0.3401	0.9201
Proportion of Muslims	54	0.1233	0.1140	0.0271	0.6361
Proportion of Sikhs	54	0.0399	0.0383	0.0044	0.1687
Proportion of Christians	54	0.0097	0.0067	0.0016	0.0320

Notes: The panel comprises 70 assembly constituencies observed in the 2008, 2013, 2015, and 2020 Delhi Assembly elections. Electoral outcomes are reported pooled across all AC-year observations ($N = 280$) and separately by election year ($N = 70$). Park measures and controls are time-invariant within AC and reported once ($N = 70$); Hindu share is omitted from the control set as the base religion category. Standard errors [statistics] computed across the units indicated.

Table A3—Association between Park Access and Electoral Outcomes

	Vote Share				
	AAP	INC+	INC	Other	Turnout
Park access *(Narrow)*	−0.1214***	0.0151	0.0145	−0.0084	−0.0027
	(0.0346)	(0.0163)	(0.0167)	(0.0089)	(0.0161)
Observations	117	117	116	117	117
Mean of dependent variable	0.5350	0.0483	0.0485	0.0182	0.6195
Zone fixed effects	Yes	Yes	Yes	Yes	Yes
Controls:					
Rental value	Yes	Yes	Yes	Yes	Yes
Physical infrastructure	Yes	Yes	Yes	Yes	Yes
Locality characteristics	Yes	Yes	Yes	Yes	Yes
Economic status	Yes	Yes	Yes	Yes	Yes
Number of schools	Yes	Yes	Yes	Yes	Yes
Proportion of scheduled castes	Yes	Yes	Yes	Yes	Yes
Proportion literate	Yes	Yes	Yes	Yes	Yes
Proportion employed	Yes	Yes	Yes	Yes	Yes
Sex ratio	Yes	Yes	Yes	Yes	Yes
Proportion of Hindus	Yes	Yes	Yes	Yes	Yes
Proportion of Muslims	Yes	Yes	Yes	Yes	Yes
Proportion of Sikhs	Yes	Yes	Yes	Yes	Yes
Proportion of Christians	Yes	Yes	Yes	Yes	Yes

Notes: Each column reports a separate OLS regression using locality-level data from the 2020 Delhi Assembly election. The dependent variables are the vote shares of the Aam Aadmi Party (AAP), the Indian National Congress-led electoral alliance (INC+), the Indian National Congress (INC), and other parties and candidates in columns (1)–(4), respectively, and voter turnout in column (5). The sample in column (3) is restricted to localities in constituencies in which the INC fielded a candidate. Turnout is defined as total votes cast divided by the number of registered electors. Park access is defined as the share of locality area covered by parks, divided by the number of electors and multiplied by 100,000. The table uses the narrow measure, which includes parks and related recreational spaces; see Section 2.3. The sample includes localities for which polling-booth-level electoral data, demographic characteristics from the 2011 Census, and measures of economic affluence, infrastructure, and colony characteristics from the Fifth Municipal Valuation Committee of Delhi are available. All specifications include zone fixed effects and the controls listed in the table. Heteroskedasticity-robust standard errors are reported in parentheses. ***, **, and * denote statistical significance at the 1, 5, and 10 percent levels, respectively.

Table A4—Placebo: 1962 Planned Recreational Land Use and 1951 Electoral Outcomes

	BJS Vote Share (0 if absent) (1)	INC Vote Share (2)	BJS Vote Share (3)	BJS Contested (0/1) (4)
1962 planned recreational land-use	−0.0105	−0.0042	0.0118	−0.0298
	(0.0550)	(0.0346)	(0.0366)	(0.1300)
Observations	36	36	24	36
Mean of dependent variable	0.2386	0.5218	0.3579	0.6667
Controls:				
Proportion of scheduled castes	Yes	Yes	Yes	Yes
Proportion literate	Yes	Yes	Yes	Yes
Proportion employed	Yes	Yes	Yes	Yes
Sex ratio	Yes	Yes	Yes	Yes
Proportion of Hindus	Yes	Yes	Yes	Yes
Proportion of Muslims	Yes	Yes	Yes	Yes
Proportion of Sikhs	Yes	Yes	Yes	Yes
Proportion of Christians	Yes	Yes	Yes	Yes

Notes: This table reports placebo regressions of 1951 electoral outcomes on recreational land-use allocations designated in Delhi's 1962 Master Plan. All regressions are at the 1951 assembly constituency level. The regressor is planned recreational land use under the 1962 Master Plan, defined as the share of constituency area designated for recreational use, divided by the number of electors and multiplied by 100,000. The planned recreational category includes planned district parks, planned playgrounds, planned open spaces, planned semi-public recreation, and planned regional parks. Column (1) reports Bharatiya Jana Sangh (BJS) vote share across all constituencies, assigning a vote share of zero to constituencies in which the BJS did not contest. Column (2) reports Indian National Congress (INC) vote share across all constituencies. Column (3) reports BJS vote share among constituencies contested by the BJS. Column (4) uses an indicator equal to one if the BJS contested the constituency and zero otherwise. All specifications include the 1951 Census controls listed in the table. Because the electoral outcomes predate the 1962 Master Plan, the estimates assess whether planned recreational land use was associated with pre-existing political geography. Heteroskedasticity-robust standard errors are reported in parentheses. ***, **, and * denote significance at the 1, 5, and 10 percent levels, respectively.

Table A5—Balance Tests: 1962 Planned Recreational Land Use and 1951 Demographic Characteristics

Dependent Variable	Coefficient on Planned Recreational Land-use	Bonferroni-adj. p-value	Mean of Dep. Var.	N
Proportion of scheduled castes	0.0007	1.000	0.1359	36
	(0.0006)			
Proportion literate	0.0059	1.000	0.4033	36
	(0.0070)			
Proportion employed	0.0004	1.000	0.3255	36
	(0.0004)			
Sex ratio	−0.0369	1.000	1.4617	36
	(0.0247)			
Proportion of Hindus	−0.0032	1.000	0.8890	36
	(0.0028)			
Proportion of Muslims	0.0043	1.000	0.0139	36
	(0.0028)			
Proportion of Sikhs	0.0004	1.000	0.0756	36
	(0.0003)			
Proportion of Christians	−0.0013**	0.184	0.0155	36
	(0.0006)			

Notes: Each row reports a separate regression of the 1951 demographic characteristic on the 1962 planned recreational land-use measure, defined as the share of constituency area designated for recreational use divided by electors and multiplied by 100,000. The full covariate set comprises the proportion of scheduled castes, proportion literate, proportion employed, sex ratio, and religion shares (Hindu, Muslim, Sikh, and Christian, with others omitted). When the dependent variable is a religion share, all religion shares are excluded from the controls, since the shares sum to approximately one; the regression then conditions only on the non-religion covariates. When the dependent variable is a non-religion covariate, that variable alone is excluded from the controls. The reported coefficient is on the planned recreational land-use measure. Heteroskedasticity-robust standard errors are reported in parentheses. p-values in the third column are adjusted for multiple hypothesis testing using the Bonferroni correction with a family of eight outcomes. No coefficient remains statistically significant at conventional levels after adjustment. ***, **, and * denote significance at the 1, 5, and 10 percent levels, respectively, based on unadjusted p-values.

Table A6—Park Access and Party Vote Shares in the 2020 Delhi Assembly Election: OLS and 2SLS Estimates Using the Narrow Park Definition

	Park Access	BJP+ Vote Share		AAP Vote Share	
	First Stage	OLS	2SLS	OLS	2SLS
	(1)	(2)	(3)	(4)	(5)
Park access *(Narrow)*		0.114***	0.1628***	−0.120***	−0.098**
		(0.036)	(0.040)	(0.034)	(0.043)
1962 planned recreational access	0.080***				
	(0.008)				
Observations	110	110	110	110	110
Kleibergen–Paap rk Wald F-statistic	114.303				
Mean of dependent variable	0.094	0.397	0.397	0.534	0.534
Zone fixed effects	Yes	Yes	Yes	Yes	Yes
Controls:					
Rental value	Yes	Yes	Yes	Yes	Yes
Physical infrastructure	Yes	Yes	Yes	Yes	Yes
Locality characteristics	Yes	Yes	Yes	Yes	Yes
Economic status	Yes	Yes	Yes	Yes	Yes
Number of schools	Yes	Yes	Yes	Yes	Yes
Proportion of scheduled castes	Yes	Yes	Yes	Yes	Yes
Proportion literate	Yes	Yes	Yes	Yes	Yes
Proportion employed	Yes	Yes	Yes	Yes	Yes
Sex ratio	Yes	Yes	Yes	Yes	Yes
Proportion of Hindus	Yes	Yes	Yes	Yes	Yes
Proportion of Muslims	Yes	Yes	Yes	Yes	Yes
Proportion of Sikhs	Yes	Yes	Yes	Yes	Yes
Proportion of Christians	Yes	Yes	Yes	Yes	Yes

Notes: Column (1) reports the first-stage regression of contemporary narrow park access on planned recreational access from the 1962 Delhi Master Plan. Columns (2)–(5) report OLS and 2SLS estimates for BJP+ and AAP vote shares in the 2020 Delhi Assembly election. BJP+ combines votes received by the BJP and its electoral alliance partners, the Janata Dal (United) and the Lok Janshakti Party. Narrow park access is defined as the share of locality area classified as parks, normalized by 100,000 electors, using the narrow definition described in Section 2.3. Planned recreational access is constructed analogously using land designated as recreational in the 1962 Master Plan, including district parks, playgrounds, open spaces, semi-public recreation, and regional parks. The sample comprises the 110 localities for which contemporary park access, electoral outcomes, demographic controls, and planned recreational allocations are available. Standard deviation of Park Access for $N = 110$ is 0.161. The Kleibergen–Paap rk Wald F-statistic is reported in column (1). All specifications include zone fixed effects and the controls listed in the table. Heteroskedasticity-robust standard errors are reported in parentheses. ***, **, and * denote significance at the 1, 5, and 10 percent levels, respectively.

Table A7—Park Access and Additional Vote-Share Outcomes in the 2020 Delhi Assembly Election: OLS and 2SLS Estimates

	Park Access	INC+ Vote Share		Other Vote Share	
	First Stage	OLS	2SLS	OLS	2SLS
	(1)	(2)	(3)	(4)	(5)
Park access *(Broad)*		0.014	−0.006	−0.008	−0.016*
		(0.016)	(0.033)	(0.009)	(0.009)
1962 planned recreational access	0.081***				
	(0.007)				
Observations	110	110	110	110	110
Kleibergen–Paap rk Wald F-statistic	116.434				
Mean of dependent variable	0.096	0.050	0.050	0.019	0.019
Zone fixed effects	Yes	Yes	Yes	Yes	Yes
Controls:					
Rental value	Yes	Yes	Yes	Yes	Yes
Physical infrastructure	Yes	Yes	Yes	Yes	Yes
Locality characteristics	Yes	Yes	Yes	Yes	Yes
Economic status	Yes	Yes	Yes	Yes	Yes
Number of schools	Yes	Yes	Yes	Yes	Yes
Proportion of scheduled castes	Yes	Yes	Yes	Yes	Yes
Proportion literate	Yes	Yes	Yes	Yes	Yes
Proportion employed	Yes	Yes	Yes	Yes	Yes
Sex ratio	Yes	Yes	Yes	Yes	Yes
Proportion of Hindus	Yes	Yes	Yes	Yes	Yes
Proportion of Muslims	Yes	Yes	Yes	Yes	Yes
Proportion of Sikhs	Yes	Yes	Yes	Yes	Yes
Proportion of Christians	Yes	Yes	Yes	Yes	Yes

Notes: Column (1) reports the first-stage regression of contemporary broad park access on planned recreational access from the 1962 Delhi Master Plan. Columns (2)–(5) report OLS and 2SLS estimates for INC+ and other vote shares in the 2020 Delhi Assembly election. INC+ combines votes received by the Indian National Congress and its electoral alliance partner, the Rashtriya Janata Dal. Other vote share aggregates all remaining votes after excluding BJP+, AAP, and INC+. Broad park access is defined as the share of locality area covered by parks and other civic recreational spaces, normalized by 100,000 electors, using the broad definition described in Section 2.3. Planned recreational access is constructed analogously using land designated as recreational in the 1962 Master Plan, including district parks, playgrounds, open spaces, semi-public recreation, and regional parks. The sample comprises the 110 localities for which contemporary park access, electoral outcomes, demographic controls, and planned recreational allocations are available. Standard deviation of Park Access for $N = 110$ is 0.161. The Kleibergen–Paap rk Wald F-statistic is reported in column (1). All specifications include zone fixed effects and the controls listed in the table. Heteroskedasticity-robust standard errors are reported in parentheses. ***, **, and * denote significance at the 1, 5, and 10 percent levels, respectively.

Table A8—Park Access and Additional Vote-Share Outcomes in the 2020 Delhi Assembly Election: OLS and 2SLS Estimates Using the Narrow Park Definition

	Park Access	INC+ Vote Share		Other Vote Share	
	First Stage	OLS	2SLS	OLS	2SLS
	(1)	(2)	(3)	(4)	(5)
Park access *(Narrow)*		0.014	−0.0087	−0.006	−0.016*
		(0.016)	(0.033)	(0.009)	(0.009)
1962 planned recreational access	0.080***				
	(0.008)				
Observations	110	110	110	110	110
Kleibergen–Paap rk Wald F-statistic	114.303				
Mean of dependent variable	0.094	0.050	0.050	0.019	0.019
Zone fixed effects	Yes	Yes	Yes	Yes	Yes
Controls:					
Rental value	Yes	Yes	Yes	Yes	Yes
Physical infrastructure	Yes	Yes	Yes	Yes	Yes
Locality characteristics	Yes	Yes	Yes	Yes	Yes
Economic status	Yes	Yes	Yes	Yes	Yes
Number of schools	Yes	Yes	Yes	Yes	Yes
Proportion of scheduled castes	Yes	Yes	Yes	Yes	Yes
Proportion literate	Yes	Yes	Yes	Yes	Yes
Proportion employed	Yes	Yes	Yes	Yes	Yes
Sex ratio	Yes	Yes	Yes	Yes	Yes
Proportion of Hindus	Yes	Yes	Yes	Yes	Yes
Proportion of Muslims	Yes	Yes	Yes	Yes	Yes
Proportion of Sikhs	Yes	Yes	Yes	Yes	Yes
Proportion of Christians	Yes	Yes	Yes	Yes	Yes

Notes: Column (1) reports the first-stage regression of contemporary narrow park access on planned recreational access from the 1962 Delhi Master Plan. Columns (2)–(5) report OLS and 2SLS estimates for INC+ and other vote shares in the 2020 Delhi Assembly election. INC+ combines votes received by the Indian National Congress and its electoral alliance partner, the Rashtriya Janata Dal. Other vote share aggregates all remaining votes after excluding BJP+, AAP, and INC+. Narrow park access is defined as the share of locality area classified as parks, normalized by 100,000 electors, using the narrow definition described in Section 2.3. Planned recreational access is constructed analogously using land designated as recreational in the 1962 Master Plan, including district parks, playgrounds, open spaces, semi-public recreation, and regional parks. The sample comprises the 110 localities for which contemporary park access, electoral outcomes, demographic controls, and planned recreational allocations are available. Standard deviation of Park Access for $N = 110$ is 0.161. The Kleibergen–Paap rk Wald F-statistic is reported in column (1). All specifications include zone fixed effects and the controls listed in the table. Heteroskedasticity-robust standard errors are reported in parentheses. ***, **, and * denote significance at the 1, 5, and 10 percent levels, respectively.

Table A9—Park Access and BJP+ Vote Share in the 2020 Delhi Assembly Election: OLS and 2SLS Estimates Using Alternative Broad Measures

	BJP+ Vote Share OLS (1)	Park Measure First Stage (2)	BJP+ Vote Share 2SLS (3)
Panel A: Share of locality area			
Park-area share *(Broad)*	0.282***		0.354**
	(0.096)		(0.150)
Planned recreational-area share		0.285***	
		(0.075)	
Kleibergen–Paap rk Wald F-statistic		14.466	
Mean of dependent variable	0.397	0.056	0.397
Panel B: Total area (km^2)			
Park area *(Broad)*	0.059***		0.102***
	(0.018)		(0.038)
Planned recreational area		0.166***	
		(0.055)	
Kleibergen–Paap rk Wald F-statistic		9.049	
Mean of dependent variable	0.397	0.257	0.397
Panel C: Area per elector			
Park area per elector *(Broad)*	0.003**		0.004***
	(0.001)		(0.0015)
Planned recreational area per elector		0.069***	
		(0.010)	
Kleibergen–Paap rk Wald F-statistic		46.294	
Mean of dependent variable	0.397	3.626	0.397
Observations	110	110	110
Zone fixed effects	Yes	Yes	Yes
Controls	Yes	Yes	Yes

Notes: Columns (1) and (3) report OLS and 2SLS estimates for BJP+ vote share in the 2020 Delhi Assembly election; column (2) reports the corresponding first stage. BJP+ combines votes received by the BJP and its electoral alliance partners, the Janata Dal (United) and the Lok Janshakti Party. Each panel uses an alternative measure constructed from the broad definition of park area described in Section 2.3. Panel A measures contemporary broad park area and planned recreational area as shares of locality area. Panel B measures both contemporary broad park area and planned recreational area in square kilometers. Panel C measures both contemporary broad park area and planned recreational area per elector. In each panel, the contemporary park measure in column (3) is instrumented by the corresponding measure of land designated as recreational in the 1962 Delhi Master Plan, including district parks, playgrounds, open spaces, semi-public recreation, and regional parks. The Kleibergen–Paap rk Wald F-statistic is reported in column (2). All specifications include zone fixed effects and controls for the natural logarithm of electors, population density, rental value, physical infrastructure, locality characteristics, economic status, the number of schools, the proportion of scheduled castes, literacy, employment, sex ratio, and the proportions of Hindus, Muslims, Sikhs, and Christians. Heteroskedasticity-robust standard errors are reported in parentheses. ***, **, and * denote significance at the 1, 5, and 10 percent levels, respectively.

Table A10—Park Access and BJP+ Vote Share in the 2020 Delhi Assembly Election: OLS and 2SLS Estimates Using Alternative Narrow Measures

	BJP+ Vote Share OLS (1)	Park Measure First Stage (2)	BJP+ Vote Share 2SLS (3)
Panel A: Share of locality area			
Park-area share *(Narrow)*	0.294***		0.363**
	(0.093)		(0.153)
Planned recreational-area share		0.278***	
		(0.075)	
Kleibergen–Paap rk Wald F-statistic		13.718	
Mean of dependent variable	0.397	0.054	0.397
Panel B: Total area (km^2)			
Park area *(Narrow)*	0.060***		0.107***
	(0.018)		(0.040)
Planned recreational area		0.158***	
		(0.054)	
Kleibergen–Paap rk Wald F-statistic		8.617	
Mean of dependent variable	0.397	0.247	0.397
Panel C: Area per elector			
Park area per elector *(Narrow)*	0.003**		0.004**
	(0.001)		(0.002)
Planned recreational area per elector		0.068***	
		(0.011)	
Kleibergen–Paap rk Wald F-statistic		42.402	
Mean of dependent variable	0.397	3.492	0.397
Observations	110	110	110
Zone fixed effects	Yes	Yes	Yes
Controls	Yes	Yes	Yes

Notes: Columns (1) and (3) report OLS and 2SLS estimates for BJP+ vote share in the 2020 Delhi Assembly election; column (2) reports the corresponding first stage. BJP+ combines votes received by the BJP and its electoral alliance partners, the Janata Dal (United) and the Lok Janshakti Party. Each panel uses an alternative measure constructed from the narrow definition of park area described in Section 2.3. Panel A measures contemporary narrow park area and planned recreational area as shares of locality area. Panel B measures both contemporary narrow park area and planned recreational area in square kilometers. Panel C measures both contemporary narrow park area and planned recreational area per elector. In each panel, the contemporary park measure in column (3) is instrumented by the corresponding measure of land designated as recreational in the 1962 Delhi Master Plan, including district parks, playgrounds, open spaces, semi-public recreation, and regional parks. The Kleibergen–Paap rk Wald F-statistic is reported in column (2). All specifications include zone fixed effects and controls for the natural logarithm of electors, population density, rental value, physical infrastructure, locality characteristics, economic status, the number of schools, the proportion of scheduled castes, literacy, employment, sex ratio, and the proportions of Hindus, Muslims, Sikhs, and Christians. Heteroskedasticity-robust standard errors are reported in parentheses. ***, **, and * denote significance at the 1, 5, and 10 percent levels, respectively.

Table A11—Park Access and Party Vote Shares across Delhi Assembly Elections: Assembly-Constituency Panel Estimates (Narrow Measure)

	BJP+ Vote Share		AAP Vote Share	
	(1)	(2)	(3)	(4)
Park access *(Narrow)*	1.2841**	1.5577**	0.2314	−0.5620
	(0.6374)	(0.6889)	(0.8632)	(0.8110)
Park access × 2013		−1.0981***		1.9711***
		(0.3471)		(0.6203)
Observations	280	280	210	210
Assembly constituency fixed effects	Yes	Yes	Yes	Yes
Election year fixed effects	Yes	Yes	Yes	Yes
Controls	Yes	Yes	No	No
Mean of dependent variable	0.3566	0.3566	0.4605	0.4605

Notes: Columns (1) and (2) report estimates for BJP+ vote share, while columns (3) and (4) report estimates for AAP vote share. BJP+ denotes the vote share of the BJP-led electoral alliance. It combines votes received by the BJP and its seat-sharing partners: the Shiromani Akali Dal (SAD) in 2008, 2013, and 2015, and the Janata Dal (United) and Lok Janshakti Party in 2020. SAD-affiliated candidates who contested on the BJP symbol are recorded as BJP candidates in the election returns. All specifications include assembly-constituency and election-year fixed effects. Delhi has 70 assembly constituencies, yielding 280 constituency-election observations for BJP+ across the elections held in 2008, 2013, 2015, and 2020, and 210 observations for AAP across the elections held in 2013, 2015, and 2020. Park access is measured as the share of constituency area covered by parks multiplied by 100,000 and divided by the election-specific number of electors. Park area from the 2015 OSM snapshot is used for the 2008, 2013, and 2015 elections, while park area from the 2020 OSM snapshot is used for the 2020 election. Columns (2) and (4) interact park access with an indicator for the 2013 election. In these columns, the coefficient on park access captures the association in elections other than 2013, while the interaction coefficient captures the differential association in 2013. Columns (1) and (2) include time-varying controls for the proportion of Scheduled Castes, proportion literate, proportion employed, and sex ratio. Demographic characteristics from the 2001 Census are used for the 2008 election, while characteristics from the 2011 Census are used for the 2013, 2015, and 2020 elections. Because the AAP sample begins in 2013, these controls do not vary within constituencies over the AAP sample period and are therefore absorbed by the assembly-constituency fixed effects. Standard errors clustered at the assembly-constituency level are reported in parentheses. ***, **, and * denote significance at the 1, 5, and 10 percent levels, respectively.

Table A12—Park Access and Vote Shares for INC+ and Other Parties across Delhi Assembly Elections: Assembly-Constituency Panel Estimates

	INC+ Vote Share		Other Vote Share	
	(1)	(2)	(3)	(4)
Park access *(Broad)*	−0.4098	−0.3415	−0.5267	−0.4242
	(0.5384)	(0.5487)	(0.7026)	(0.6834)
Park access × 2013		−0.3409		−0.5114*
		(0.2120)		(0.2921)
Observations	280	280	280	280
Assembly constituency fixed effects	Yes	Yes	Yes	Yes
Election year fixed effects	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes
Mean of dependent variable	0.1999	0.1999	0.0980	0.0980

Notes: Columns (1) and (2) report estimates for INC+ vote share, while columns (3) and (4) report estimates for the combined vote share of other parties and candidates. INC+ combines votes received by the Indian National Congress and its electoral alliance partners in each election. Other vote share combines votes received by parties and candidates not included in BJP+, AAP, or INC+. All specifications include assembly-constituency and election-year fixed effects. Delhi has 70 assembly constituencies, yielding 280 constituency-election observations across the elections held in 2008, 2013, 2015, and 2020. Park access is measured as the share of constituency area covered by parks multiplied by 100,000 and divided by the election-specific number of electors. The broad park measure is defined in Section 2.3. Park area measured in 2015 is used for the 2008, 2013, and 2015 elections, while park area measured in 2020 is used for the 2020 election. Columns (2) and (4) interact park access with an indicator for the 2013 election. In these columns, the coefficient on park access captures the association in elections other than 2013, while the interaction coefficient captures the differential association in 2013. All specifications include time-varying controls for the proportion of scheduled castes, proportion literate, proportion employed, and sex ratio. Demographic characteristics from the 2001 Census are used for the 2008 election, while characteristics from the 2011 Census are used for the 2013, 2015, and 2020 elections. Standard errors clustered at the assembly-constituency level are reported in parentheses. ***, **, and * denote significance at the 1, 5, and 10 percent levels, respectively.

Table A13—Park Access and Vote Shares for INC+ and Other Parties across Delhi Assembly Elections: Assembly-Constituency Panel Estimates (Narrow Measure)

	INC+ Vote Share		Other Vote Share	
	(1)	(2)	(3)	(4)
Park access *(Narrow)*	−0.3037	−0.2197	−0.8438	−0.7205
	(0.5723)	(0.5909)	(0.7499)	(0.7377)
Park access × 2013		−0.3372		−0.4949
		(0.2134)		(0.3004)
Observations	280	280	280	280
Assembly constituency fixed effects	Yes	Yes	Yes	Yes
Election year fixed effects	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes
Mean of dependent variable	0.1999	0.1999	0.0980	0.0980

Notes: Columns (1) and (2) report estimates for INC+ vote share, while columns (3) and (4) report estimates for the combined vote share of other parties and candidates. INC+ combines votes received by the Indian National Congress and its electoral alliance partners in each election. Other vote share combines votes received by parties and candidates not included in BJP+, AAP, or INC+. All specifications include assembly-constituency and election-year fixed effects. Delhi has 70 assembly constituencies, yielding 280 constituency-election observations across the elections held in 2008, 2013, 2015, and 2020. Park access is measured as the share of constituency area covered by parks multiplied by 100,000 and divided by the election-specific number of electors. The narrow measure includes only areas classified as parks, as described in Section 2.3. Park area measured in 2015 is used for the 2008, 2013, and 2015 elections, while park area measured in 2020 is used for the 2020 election. Columns (2) and (4) interact park access with an indicator for the 2013 election. In these columns, the coefficient on park access captures the association in elections other than 2013, while the interaction coefficient captures the differential association in 2013. All specifications include time-varying controls for the proportion of scheduled castes, proportion literate, proportion employed, and sex ratio. Demographic characteristics from the 2001 Census are used for the 2008 election, while characteristics from the 2011 Census are used for the 2013, 2015, and 2020 elections. Standard errors clustered at the assembly-constituency level are reported in parentheses. ***, **, and * denote significance at the 1, 5, and 10 percent levels, respectively.

Table A14—Park Access and Party Vote Shares across Delhi Assembly Elections: Assembly-Constituency Panel Estimates with Election-Year Interactions (Broad Measure)

	Vote Share			
	BJP+	AAP	INC+	Other
	(1)	(2)	(3)	(4)
Park access *(Broad)*	0.9566*	−0.5954	−0.4578	0.1552
	(0.5604)	(0.6968)	(0.5211)	(0.6350)
Park access × 2008	1.3281**		0.2769	−1.7717***
	(0.5208)		(0.4205)	(0.4668)
Park access × 2013	−0.4552**	1.9323***	−0.3088	−1.1918***
	(0.2198)	(0.5760)	(0.2807)	(0.4023)
Park access × 2015	0.5614*	−0.1034	−0.1937	−0.2818
	(0.2842)	(0.2708)	(0.2523)	(0.1964)
Observations	280	210	280	280
Assembly constituency fixed effects	Yes	Yes	Yes	Yes
Election year fixed effects	Yes	Yes	Yes	Yes
Controls	Yes	-	Yes	Yes
Mean of dependent variable	0.3566	0.4605	0.1999	0.0980

Notes: Each column reports a separate regression for the indicated party's vote share. BJP+ and INC+ combine votes received by the respective party and its electoral alliance partners in each election. Other vote share combines votes received by parties and candidates not included in BJP+, AAP, or INC+. All specifications include assembly-constituency and election-year fixed effects. Delhi has 70 assembly constituencies, yielding 280 constituency-election observations for BJP+, INC+, and other parties across the elections held in 2008, 2013, 2015, and 2020, and 210 observations for AAP across the elections held in 2013, 2015, and 2020. Park access is measured as the share of constituency area covered by parks multiplied by 100,000 and divided by the election-specific number of electors. The broad park measure is defined in Section 2.3. Park area measured in 2015 is used for the 2008, 2013, and 2015 elections, while park area measured in 2020 is used for the 2020 election. Park access is interacted with indicators for the 2008, 2013, and 2015 elections, with 2020 serving as the omitted election. The coefficient on park access therefore captures the association in 2020. Each interaction coefficient captures the difference between the association in the indicated election and the association in 2020; the association for that election is obtained by adding the main coefficient and the corresponding interaction coefficient. The AAP specification does not include a 2008 interaction because AAP first contested the Delhi Assembly election in 2013. Columns (1), (3), and (4) include time-varying controls for the proportion of scheduled castes, proportion literate, proportion employed, and sex ratio. Demographic characteristics from the 2001 Census are used for the 2008 election, while characteristics from the 2011 Census are used for the 2013, 2015, and 2020 elections. Because the AAP sample begins in 2013, these controls do not vary within constituencies over the AAP sample period and are therefore absorbed by the assembly-constituency fixed effects. Standard errors clustered at the assembly-constituency level are reported in parentheses. ***, **, and * denote significance at the 1, 5, and 10 percent levels, respectively.

Table A15—Park Access and Party Vote Shares across Delhi Assembly Elections: Assembly-Constituency Panel Estimates with Election-Year Interactions (Narrow Measure)

	Vote Share			
	BJP+	AAP	INC+	Other
	(1)	(2)	(3)	(4)
Park access *(Narrow)*	1.0724*	−0.5522	−0.3595	−0.0274
	(0.6111)	(0.8168)	(0.5530)	(0.7138)
Park access × 2008	1.3114**		0.2995	−1.7567***
	(0.5388)		(0.4348)	(0.4953)
Park access × 2013	−0.4826**	1.9213***	−0.2918	−1.1785***
	(0.2320)	(0.5957)	(0.2777)	(0.4220)
Park access × 2015	0.5467*	−0.1059	−0.1795	−0.2814
	(0.2887)	(0.2762)	(0.2556)	(0.2077)
Observations	280	210	280	280
Assembly constituency fixed effects	Yes	Yes	Yes	Yes
Election year fixed effects	Yes	Yes	Yes	Yes
Controls	Yes	-	Yes	Yes
Mean of dependent variable	0.3566	0.4605	0.1999	0.0980

Notes: Each column reports a separate regression for the indicated party's vote share. BJP+ and INC+ combine votes received by the respective party and its electoral alliance partners in each election. Other vote share combines votes received by parties and candidates not included in BJP+, AAP, or INC+. All specifications include assembly-constituency and election-year fixed effects. Delhi has 70 assembly constituencies, yielding 280 constituency-election observations for BJP+, INC+, and other parties across the elections held in 2008, 2013, 2015, and 2020, and 210 observations for AAP across the elections held in 2013, 2015, and 2020. Park access is measured as the share of constituency area covered by parks multiplied by 100,000 and divided by the election-specific number of electors. The narrow measure includes only areas classified as parks, as described in Section 2.3. Park area measured in 2015 is used for the 2008, 2013, and 2015 elections, while park area measured in 2020 is used for the 2020 election. Park access is interacted with indicators for the 2008, 2013, and 2015 elections, with 2020 serving as the omitted election. The coefficient on park access therefore captures the association in 2020. Each interaction coefficient captures the difference between the association in the indicated election and the association in 2020; the association for that election is obtained by adding the main coefficient and the corresponding interaction coefficient. The AAP specification does not include a 2008 interaction because AAP first contested the Delhi Assembly election in 2013. Columns (1), (3), and (4) include time-varying controls for the proportion of scheduled castes, proportion literate, proportion employed, and sex ratio. Demographic characteristics from the 2001 Census are used for the 2008 election, while characteristics from the 2011 Census are used for the 2013, 2015, and 2020 elections. Because the AAP sample begins in 2013, these controls do not vary within constituencies over the AAP sample period and are therefore absorbed by the assembly-constituency fixed effects. Standard errors clustered at the assembly-constituency level are reported in parentheses. ***, **, and * denote significance at the 1, 5, and 10 percent levels, respectively.

Table A16—Park Access and RSS Shakha Activity: OLS and Instrumental Variables Estimates (Narrow Measure)

	RSS Shakha Rate		Park Access	RSS Shakha Rate
	OLS	OLS	First Stage	2SLS
	(1)	(2)	(3)	(4)
Park access *(Narrow)*	25.999***	25.157***		25.638***
	(6.915)	(6.777)		(6.068)
1962 planned recreational access			0.080***	
			(0.008)	
Observations	111	104	104	104
Kleibergen–Paap rk Wald F-statistic			110.753	
Mean of dependent variable	18.910	19.404	0.091	19.404
Zone fixed effects	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes

Notes: Columns (1), (2), and (4) use the number of RSS *shakhas* per 100,000 electors as the dependent variable. Columns (1) and (2) report OLS estimates. Column (1) uses the full sample, while column (2) restricts the sample to localities with 1962 Master Plan recreational land-allocation data. Column (3) reports the first-stage regression of contemporary park access on planned recreational access from the 1962 Delhi Master Plan. Column (4) reports the corresponding 2SLS estimate. Contemporary park access is measured as the share of locality area covered by parks under the narrow definition multiplied by 100,000 and divided by the number of electors. The narrow measure includes only areas classified as parks, as described in Section 2.3. The instrument is constructed analogously using land designated as recreational in the 1962 Master Plan. All specifications include zone fixed effects and controls for rental value, physical infrastructure, locality characteristics, economic status, the number of schools, the proportion of scheduled castes, literacy, employment, sex ratio, and the proportions of Hindus, Muslims, Sikhs, and Christians. The Kleibergen–Paap rk Wald F-statistic is reported in column (3). Heteroskedasticity-robust standard errors are reported in parentheses. ***, **, and * denote significance at the 1, 5, and 10 percent levels, respectively.

Table A17—Park Access and RSS Shakha Activity: OLS and Instrumental Variables Estimates (Broad Measure)— Non-Robust Standard Error

	RSS Shakha Rate		Park Access	RSS Shakha Rate
	OLS	OLS	First Stage	2SLS
	(1)	(2)	(3)	(4)
Park access *(Broad)*	25.728***	24.877***		25.558**
	(8.996)	(9.252)		(10.326)
1962 planned recreational access			0.080***	
			(0.007)	
Observations	111	104	104	104
Cragg–Donald Wald F-statistic			135.172	
Mean of dependent variable	18.910	19.404	0.093	19.404
Zone fixed effects	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes

Notes: Columns (1), (2), and (4) use the number of RSS *shakhas* per 100,000 electors as the dependent variable. Columns (1) and (2) report OLS estimates. Column (1) uses the full sample, while column (2) restricts the sample to localities with 1962 Master Plan recreational land-allocation data. Column (3) reports the first-stage regression of contemporary park access on planned recreational access from the 1962 Delhi Master Plan. Column (4) reports the corresponding 2SLS estimate. Contemporary park access is measured as the share of locality area covered by parks under the narrow definition multiplied by 100,000 and divided by the number of electors. The narrow measure includes only areas classified as parks, as described in Section 2.3. The instrument is constructed analogously using land designated as recreational in the 1962 Master Plan. All specifications include zone fixed effects and controls for rental value, physical infrastructure, locality characteristics, economic status, the number of schools, the proportion of scheduled castes, literacy, employment, sex ratio, and the proportions of Hindus, Muslims, Sikhs, and Christians. The Kleibergen–Paap rk Wald F-statistic is reported in column (3). Non-robust standard errors are reported in parentheses. ***, **, and * denote significance at the 1, 5, and 10 percent levels, respectively.

Table A18—Persistence of Demographic Characteristics across Delhi Assembly Constituencies, 2001–2011

	N	2001		2011		Spearman
		Mean	SD	Mean	SD	ρ
Sex ratio	70	1.221	0.047	1.152	0.032	0.76
Proportion of scheduled castes	70	0.174	0.057	0.175	0.059	0.89
Proportion literate	70	0.698	0.042	0.762	0.033	0.90
Proportion employed	70	0.329	0.027	0.337	0.028	0.91
Proportion of Hindus	38	0.822	0.084	0.806	0.118	0.80
Proportion of Muslims	38	0.099	0.090	0.122	0.129	0.83
Proportion of Sikhs	38	0.052	0.042	0.046	0.043	0.92
Proportion of Christians	38	0.010	0.007	0.009	0.006	0.82

Notes: The table reports demographic characteristics from the 2001 and 2011 Censuses of India, harmonized to common assembly-constituency boundaries. The column labeled N reports the number of constituencies for which the corresponding variable can be constructed in both census years. Religion shares can be constructed consistently in both census years for only 38 constituencies because the sub-constituency census data required to map religion to post-2008 boundaries are unavailable for the remaining 32 constituencies. Means and standard deviations are calculated over this balanced sample. The final column reports the Spearman rank correlation between the 2001 and 2011 constituency-level values. The sex ratio is defined as the number of males per female. Religion shares can be constructed consistently in both census years for 38 constituencies, accounting for the smaller sample for these variables.

Table A19—Park Measures and Changes in Demographic Composition, 2001–2011

	Park Area as Share of AC Area			Park Access	
	2020	2015	1962 Plan	2020	1962 Plan
	(1)	(2)	(3)	(4)	(5)
Panel A: Non-religion demographics					
Δ Sex ratio	−0.0174	0.0452	−0.0108	−0.0328	−0.0494
	(0.0689)	(0.0565)	(0.0599)	(0.1213)	(0.0921)
Δ Proportion of scheduled castes	0.0222	0.0061	0.0316	0.0620	0.0622
	(0.0333)	(0.0385)	(0.0342)	(0.0597)	(0.0566)
Δ Proportion literate	−0.0276	−0.0504	−0.0182	−0.0747	−0.0254
	(0.0341)	(0.0311)	(0.0259)	(0.0554)	(0.0435)
Δ Proportion employed	0.0171	0.0533	−0.0035	0.0580	−0.0035
	(0.0290)	(0.0337)	(0.0230)	(0.0508)	(0.0393)
Observations	70	70	56	70	56
Panel B: Religion shares					
Δ Proportion of Hindus	0.1456	0.1651	0.0353	0.1378	−0.0407
	(0.2844)	(0.2279)	(0.2537)	(0.4466)	(0.3436)
Δ Proportion of Muslims	−0.1590	−0.1904	−0.0242	−0.1463	0.0664
	(0.2985)	(0.2332)	(0.2679)	(0.4723)	(0.3627)
Δ Proportion of Sikhs	−0.0016	0.0146	−0.0235	−0.0108	−0.0385
	(0.0148)	(0.0185)	(0.0105)	(0.0277)	(0.0157)
Δ Proportion of Christians	0.0101	0.0137	0.0027	0.0107	−0.00002
	(0.0126)	(0.0103)	(0.0106)	(0.0197)	(0.0137)
Observations	38	38	37	38	37

Notes: Each cell reports the coefficient from a separate bivariate OLS regression of the change in the row variable between 2001 and 2011 on the park measure indicated by the column. Changes are defined as the 2011 value minus the 2001 value. Columns (1) and (2) measure contemporary park area in 2020 and 2015, respectively, as a share of assembly-constituency (AC) area. Column (3) measures land designated as recreational in the 1962 Delhi Master Plan as a share of AC area. Column (4) measures 2020 park access as the 2020 park-area share multiplied by 100,000 and divided by the 2020 electorate. Column (5) constructs the corresponding planned recreational-access measure using the 1962 recreational-area share and the 2020 electorate. Demographic variables are drawn from the 2001 and 2011 Censuses of India and harmonized to common AC boundaries. The smaller samples in Panel B reflect the limited number of constituencies for which religion shares can be constructed consistently in both census years. Heteroskedasticity-robust standard errors are reported in parentheses. Given the eight demographic outcomes examined for each park measure, statistical significance is assessed using a Bonferroni correction within each column; no coefficient remains significant at conventional levels after adjustment.

Table A20—Park Access, BJP+ Vote Share, and RSS Shakha Activity: Controlling for the Number of Temples

	BJP+ Vote Share		RSS Shakha Rate	
	Full Sample (1)	Restricted Sample (2)	Full Sample (3)	Restricted Sample (4)
Park access *(Broad)*	0.1159***	0.1154***	25.4866***	24.5866***
	(0.0387)	(0.0369)	(6.8688)	(6.7693)
Observations	117	110	111	104
Mean of dependent variable	0.3985	0.3974	18.9102	19.4041
Zone fixed effects	Yes	Yes	Yes	Yes
Number of temples	Yes	Yes	Yes	Yes
Other controls	Yes	Yes	Yes	Yes

Notes: Columns (1) and (2) report OLS estimates for BJP+ vote share in the 2020 Delhi Assembly election. Columns (3) and (4) report OLS estimates for the number of RSS *shakhas* per 100,000 electors. BJP+ combines votes received by the BJP and its electoral alliance partners. Columns (1) and (3) use the full sample available for the corresponding outcome, while columns (2) and (4) restrict the sample to localities with 1962 Master Plan recreational land-allocation data. Park access is measured as the share of locality area covered by parks under the broad definition multiplied by 100,000 and divided by the number of electors. All specifications control for the number of temples in the locality and include zone fixed effects. Other controls comprise rental value, physical infrastructure, locality characteristics, economic status, the number of schools, the proportion of scheduled castes, literacy, employment, sex ratio, and the proportions of Hindus, Muslims, Sikhs, and Christians. Heteroskedasticity-robust standard errors are reported in parentheses. ***, **, and * denote significance at the 1, 5, and 10 percent levels, respectively.

Table A21—Park Access, BJP+ Vote Share, and RSS Shakha Activity: Controlling for the Number of Temples (Narrow Measure)

	BJP+ Vote Share		RSS Shakha Rate	
	Full Sample (1)	Restricted Sample (2)	Full Sample (3)	Restricted Sample (4)
Park access *(Narrow)*	0.1170***	0.1164***	25.7456***	24.8543***
	(0.0389)	(0.0370)	(6.9190)	(6.8107)
Observations	117	110	111	104
Mean of dependent variable	0.3985	0.3974	18.9102	19.4041
Zone fixed effects	Yes	Yes	Yes	Yes
Number of temples	Yes	Yes	Yes	Yes
Other controls	Yes	Yes	Yes	Yes

Notes: Columns (1) and (2) report OLS estimates for BJP+ vote share in the 2020 Delhi Assembly election. Columns (3) and (4) report OLS estimates for the number of RSS *shakhas* per 100,000 electors. BJP+ combines votes received by the BJP and its electoral alliance partners. Columns (1) and (3) use the full sample available for the corresponding outcome, while columns (2) and (4) restrict the sample to localities with 1962 Master Plan recreational land-allocation data. Park access is measured as the share of locality area covered by parks under the narrow definition multiplied by 100,000 and divided by the number of electors. The narrow measure includes only areas classified as parks, as described in Section 2.3. All specifications control for the number of temples in the locality and include zone fixed effects. Other controls comprise rental value, physical infrastructure, locality characteristics, economic status, the number of schools, the proportion of scheduled castes, literacy, employment, sex ratio, and the proportions of Hindus, Muslims, Sikhs, and Christians. Heteroskedasticity-robust standard errors are reported in parentheses. ***, **, and * denote significance at the 1, 5, and 10 percent levels, respectively.

Table A22—Alternative OpenStreetMap Green-Space Categories and BJP+ Vote Share

	BJP+ Vote Share			
	Narrow	Broad	Agricultural Land	Forest
	(1)	(2)	(3)	(4)
Green-space access	0.1147***	0.1136***	−0.0794	−0.0642
	(0.0375)	(0.0373)	(0.0800)	(0.0766)
Observations	117	117	117	117
Mean of dependent variable	0.3985	0.3985	0.3985	0.3985
Zone fixed effects	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes

Notes: Each column reports a separate OLS regression of BJP+ vote share in the 2020 Delhi Assembly election on access to the indicated OpenStreetMap land-use category. BJP+ combines votes received by the BJP and its electoral alliance partners. Each access measure is constructed as the share of locality area covered by the indicated category multiplied by 100,000 and divided by the number of electors. Column (1) includes polygons tagged `leisure=park`. Column (2) includes polygons tagged `leisure=park`, `leisure=playground`, `leisure=garden`, `leisure=dog_park`, `leisure=fitness_station`, or `landuse=recreation_ground`. Column (3) includes polygons tagged `landuse=village_green`, `landuse=greenfield`, `landuse=farmland`, `landuse=meadow`, or `landuse=orchard`. Column (4) includes polygons tagged `landuse=forest`. The narrow and broad recreation categories are not mutually exclusive: the broad measure includes all polygons in the narrow measure. All specifications include zone fixed effects and controls for rental value, physical infrastructure, locality characteristics, economic status, the number of schools, the proportion of scheduled castes, literacy, employment, sex ratio, and the proportions of Hindus, Muslims, Sikhs, and Christians. Heteroskedasticity-robust standard errors are reported in parentheses. ***, **, and * denote significance at the 1, 5, and 10 percent levels, respectively.

Table A23—Park Access, BJP+ Vote Share, and RSS Shakha Activity: Controlling for Population Density (Broad Measure)

	BJP+ Vote Share		RSS Shakha Rate	
	Full Sample (1)	Restricted Sample (2)	Full Sample (3)	Restricted Sample (4)
Park access *(Broad)*	0.1265***	0.1244***	26.7374***	25.5245***
	(0.0390)	(0.0381)	(6.9402)	(6.8337)
Observations	117	110	111	104
Mean of dependent variable	0.3985	0.3974	18.9102	19.4041
Zone fixed effects	Yes	Yes	Yes	Yes
Population density	Yes	Yes	Yes	Yes
Other controls	Yes	Yes	Yes	Yes

Notes: Columns (1) and (2) report OLS estimates for BJP+ vote share in the 2020 Delhi Assembly election. Columns (3) and (4) report OLS estimates for the number of RSS *shakhas* per 100,000 electors. BJP+ combines votes received by the BJP and its electoral alliance partners. Columns (1) and (3) use the full sample available for the corresponding outcome, while columns (2) and (4) restrict the sample to localities with 1962 Master Plan recreational land-allocation data. Park access is measured as the share of locality area covered by parks under the broad definition multiplied by 100,000 and divided by the number of electors. All specifications control for population density and include zone fixed effects. Other controls comprise rental value, physical infrastructure, locality characteristics, economic status, the number of schools, the proportion of scheduled castes, literacy, employment, sex ratio, and the proportions of Hindus, Muslims, Sikhs, and Christians. Heteroskedasticity-robust standard errors are reported in parentheses. ***, **, and * denote significance at the 1, 5, and 10 percent levels, respectively.

Table A24—Park Access, BJP+ Vote Share, and RSS Shakha Activity: Controlling for Population Density (Narrow Measure)

	BJP+ Vote Share		RSS Shakha Rate	
	Full Sample (1)	Restricted Sample (2)	Full Sample (3)	Restricted Sample (4)
Park access *(Narrow)*	0.1270***	0.1248***	26.9104***	25.7276***
	(0.0390)	(0.0381)	(6.9828)	(6.8727)
Observations	117	110	111	104
Mean of dependent variable	0.3985	0.3974	18.9102	19.4041
Zone fixed effects	Yes	Yes	Yes	Yes
Population density	Yes	Yes	Yes	Yes
Other controls	Yes	Yes	Yes	Yes

Notes: Each column reports a locality-level OLS regression. BJP+ vote share combines votes received by the BJP and its electoral alliance partners. The RSS shakha rate is the number of shakhas per 100,000 electors. The narrow park-access measure includes only OpenStreetMap features tagged `leisure=park` and is expressed per 100,000 electors. Columns (1) and (3) use the full available sample; columns (2) and (4) restrict the sample to localities with 1962 Master Plan recreational land-allocation data. Other controls include rental value, physical infrastructure, locality characteristics, economic status, the number of schools, scheduled-caste share, literacy, employment, sex ratio, and Hindu, Muslim, Sikh, and Christian population shares. Heteroskedasticity-robust standard errors are reported in parentheses. ***, **, and * denote significance at the 1, 5, and 10 percent levels, respectively.

Table A25—Park Access and BJP+ Vote Share: Conley Spatial Standard Errors

	BJP+ Vote Share				
Conley cutoff:	1 km (1)	3 km (2)	5 km (3)	10 km (4)	15 km (5)
Park access *(Broad)*	0.1136***	0.1136***	0.1136***	0.1136***	0.1136***
	(0.0335)	(0.0344)	(0.0337)	(0.0355)	(0.0330)
Observations	117	117	117	117	117
Mean of dependent variable	0.3985	0.3985	0.3985	0.3985	0.3985
Zone fixed effects	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes

Notes: Each column reports the same locality-level OLS regression of BJP+ vote share on the broad measure of park access. BJP+ vote share combines votes received by the BJP and its electoral alliance partners. The point estimate is identical across columns because the specification and estimation sample remain unchanged. Conley (1999) spatial HAC standard errors are computed using a Bartlett kernel and the distance cutoff shown in the column header. Under the Bartlett kernel, spatial weights decline linearly with distance and equal zero at and beyond the indicated cutoff. Controls include rental value, physical infrastructure, locality characteristics, economic status, the number of schools, scheduled-caste share, literacy, employment, sex ratio, and Hindu, Muslim, Sikh, and Christian population shares. Conley spatial standard errors are reported in parentheses. ***, **, and * denote significance at the 1, 5, and 10 percent levels, respectively.

Table A26—Park Access and BJP+ Vote Share: Conley Spatial Standard Errors (Narrow Measure)

	BJP+ Vote Share				
Conley cutoff:	1 km	3 km	5 km	10 km	15 km
	(1)	(2)	(3)	(4)	(5)
Park access *(Narrow)*	0.1147***	0.1147***	0.1147***	0.1147***	0.1147***
	(0.0336)	(0.0344)	(0.0335)	(0.0354)	(0.0331)
Observations	117	117	117	117	117
Mean of dependent variable	0.3985	0.3985	0.3985	0.3985	0.3985
Zone fixed effects	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes

Notes: Each column reports the same locality-level OLS regression of BJP+ vote share on the narrow measure of park access. BJP+ vote share combines votes received by the BJP and its electoral alliance partners. The narrow park measure includes only OpenStreetMap features tagged `leisure=park`. The point estimate is identical across columns because the specification and estimation sample remain unchanged. Conley (1999) spatial HAC standard errors are computed using a Bartlett kernel and the distance cutoff shown in the column header. Under the Bartlett kernel, spatial weights decline linearly with distance and equal zero at and beyond the indicated cutoff. Controls include rental value, physical infrastructure, locality characteristics, economic status, the number of schools, scheduled-caste share, literacy, employment, sex ratio, and Hindu, Muslim, Sikh, and Christian population shares. Conley spatial standard errors are reported in parentheses. ***, **, and * denote significance at the 1, 5, and 10 percent levels, respectively.

Table A27—Park Access and Electoral Outcomes: Excluding Geographically Inconsistent Polling Booths (Broad Measure)

	Vote Share				
	BJP+	AAP	INC+	Other	Turnout
	(1)	(2)	(3)	(4)	(5)
Park access *(Broad)*	0.1095***	−0.1156***	0.0141	−0.0080	−0.0028
	(0.0407)	(0.0380)	(0.0166)	(0.0089)	(0.0168)
Observations	117	117	117	117	117
Mean of dependent variable	0.3982	0.5352	0.0483	0.0182	0.6192
Zone fixed effects	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes

Notes: Each column reports a locality-level OLS regression using electoral outcomes reconstructed after excluding polling booths whose geocoded coordinates fall outside the assembly constituency (AC) to which they are administratively assigned. This restriction excludes 420 polling booths but retains all 117 localities. BJP+ and INC+ combine votes received by each party and its electoral alliance partners. The broad park measure includes OpenStreetMap features tagged `leisure=park`, `playground`, `garden`, `dog_park`, or `fitness_station`, as well as `landuse=recreation_ground`. Controls include rental value, physical infrastructure, locality characteristics, economic status, the number of schools, scheduled-caste share, literacy, employment, sex ratio, and Hindu, Muslim, Sikh, and Christian population shares. Heteroskedasticity-robust standard errors are reported in parentheses. ***, **, and * denote significance at the 1, 5, and 10 percent levels, respectively.

Table A28—Park Access and Electoral Outcomes: Excluding Geographically Inconsistent Polling Booths (Narrow Measure)

	Vote Share				
	BJP+	AAP	INC+	Other	Turnout
	(1)	(2)	(3)	(4)	(5)
Park access *(Narrow)*	0.1107***	−0.1160***	0.0138	−0.0084	−0.0007
	(0.0409)	(0.0380)	(0.0166)	(0.0089)	(0.0166)
Observations	117	117	117	117	117
Mean of dependent variable	0.3982	0.5352	0.0483	0.0182	0.6192
Zone fixed effects	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes

Notes: Each column reports a locality-level OLS regression using electoral outcomes reconstructed after excluding polling booths whose geocoded coordinates fall outside the assembly constituency (AC) to which they are administratively assigned. This restriction excludes 420 polling booths but retains all 117 localities. BJP+ and INC+ combine votes received by each party and its electoral alliance partners. The narrow park measure includes only OpenStreetMap features tagged `leisure=park`. Controls include rental value, physical infrastructure, locality characteristics, economic status, the number of schools, scheduled-caste share, literacy, employment, sex ratio, and Hindu, Muslim, Sikh, and Christian population shares. Heteroskedasticity-robust standard errors are reported in parentheses. ***, **, and * denote significance at the 1, 5, and 10 percent levels, respectively.