



URBAN LOCAL BODY CODEBOOK 1.0

https://github.com/tcpd/Urban-Local-Body

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1. Introduction

Welcome!

This dataset consists of information on the Urban Local Body Elections for 8 Indian States - Bihar, Kerala, Madhya Pradesh, Maharashtra, Rajasthan, Telangana, West Bengal, and Uttar Pradesh. Local Bodies exist under Panchayati Raj or Municipality, the third tier of governance in India. Local Bodies are institutions of local self-governance, and are broadly classified into Rural Local Bodies (Panchayats) and Urban Local Bodies (Municipalities). Currently, there are 4765 Urban Local Bodies (ULB) in India. ULBs are classified as follows:

- 1. Municipal Corporation formed for large[1] urban area
- 2. Municipal Council formed for smaller $^{[1]}$ urban area
- 3. Nagar Panchayat (also referred to as Notified Area Council) formed for areas that are in $transition^{[1]}$ from rural to urban

Each ULB is headed by a Mayor for Municipal Corporation and a President/Chairman for Municipal Council and Nagar Panchayat. The area/region administered by the ULB is divided into territorial constituencies known as wards. Each ward has seat(s), and the elected/nominated candidate is referred to as a member/councilor, and participates in the council (legislative wing of the ULB) also known as the ward committee.

This dataset has been built through the collaborative efforts of the Trivedi Centre for Political Data, Ashoka University, and the Center for the Advanced Study of India, University of Pennsylvania.

The data have been carefully extracted and verified from official State Election Commission websites that document information on elections. The data extracted from the sources (defined in Table 2) have been cleaned and standardized with the aim of facilitating further analysis.

In time, we will add more states to the dataset. We request that you cite this dataset whenever you use it as a source for publications, public presentations, etc.

^[1] According to the Ministry of Education, Government of India, "....a transitional area, a smaller urban area or a larger urban area means such area as the Governor may, having regard to the population of the area, the density of the population therein, the revenue generated for local administration, the percentage of employment in non-agricultural activities, the economic importance or such other factors as he may deem fit, specify by public notification for the purposes of this Part." Source: https://www.education.gov.in/en/article-243q.





2. Terms and conditions

The Urban Local Body dataset consists of election data pertaining to Urban Local Bodies from 2008 to 2021. This dataset and codebook is part of the TCPD repository which contains our work in progress. Please ensure you use the latest version of the data and documentation. For questions, please email us at tcpd-contact@ashoka.edu.in. Users are free to download, display or include the data in other products for non-commercial purposes at no cost subject to the following limitations:

Data Citation: "TCPD-CASI Urban Local Body Dataset (TCPD-CASI-ULB), 2008-2021". Trivedi Centre for Political Data, Ashoka University and Center for the Advanced Study of India, University of Pennsylvania.

Codebook Citation: Neelesh Agrawal, Adam Auerbach, Mohammed Zahir Ali, Srishti Gupta, Mohit Kumar, Aditya Sarkar, Tariq Thachil, Priyamvada Trivedi, Gilles Verniers, and S. V. Sai Vikas. 2022. "TCPD-CASI Urban Local Body Dataset (TCPD-CASI-ULB), 2008-2021 Codebook 1.0", Trivedi Centre for Political Data, Ashoka University, Center for the Advanced Study of India, University of Pennsylvania.

No Endorsement: The user must not claim or imply that the Trivedi Centre for Political Data endorses the user's use of the data or use of the Centre's logo(s) or trademarks(s) in conjunction with the same.

No Warranty: The Centre makes no warranties with respect to the accuracy of the data. While we do our best to ensure that the numbers are accurate, there is room for error. And as such the user must agree that the Centre shall not be held responsible or liable to the user for any errors, omissions, misstatements, and/or misrepresentations of the data through the user is encouraged to report the same to us (send us a message or write us at tcpd-contact@ashoka.edu.in).

Personal data: The Centre may record visits to the TCPD website without collecting the personal information of the users. The records shall be used for statistical reports only.

Acknowledgment: The user must agree that the use of the Data presented within the application can be seen as the acknowledgment of unconditionally accepting the Terms of Use presented by the Centre.





3. Table 1: Variable names, type, and description

No.	Variable Name	Variable Type	Variable Description
1	State_Name	string	Name of the state.
			The states covered in this dataset are as follows:
			1. Bihar
			2. Kerala
			3. Madhya Pradesh
			4. Maharashtra
			5. Rajasthan
			6. Telangana
			7. Uttar Pradesh
			8. West Bengal
2	Year	numeric	Year in which the election was held.
			1.Bihar: 2017
			2.Kerala: 2015
			3.Madhya Pradesh: 2016, 2017, 2018
			4.Maharashtra: 2017, 2018, 2019, 2020
			5.Rajasthan: 2020, 2021
			6.Telangana: 2020, 2021
			7.Uttar Pradesh: 2017
			8.West Bengal: 2008, 2009, 2010,
			2011, 2012, 2013, 2015, 2017
3	Polling_Date	String	Date of elections.
			Format: dd-mm-yyyy
			Where dd value is not available: 'Month Year' [applicable to Maharashtra]
4	Seat	string	Identifier to uniquely identify each seat in a ward, applicable when more than one seat is available in the ward, as gathered





		Ī	from sources.
			Tron Bourges.
			For instance, in State_Name: Maharashtra, LB_Type: MC, LB_Code: 1, Ward_No: 19 has 4 seats marked with A,B,C,D, each with its election data.
5	Poll_No	numeric	This is an indicator of whether the election was a bye-election or a regularly scheduled election. The variable is 0 in case it was a regularly scheduled election, 1 for the first bye-poll for that assembly and constituency, 2 for the second bye-poll, and so on.
6	District	string	Name of the district.
7	LB_Name	string	Name of the Urban Local Body (ULB).
8	LB_Type	string	Type of the Urban Local Body: Municipal Council (MCL) or Municipal Corporation (MC) or Nagar Panchayat (NP) Each ULB has its associated LB_Type, as informed from the source/s.
9	LB_Code	numeric	This is a unique number for each ULB in LB_Type in the state. For each LB_Type, the LB_Code starts from 1. For instance, in Bihar for LB_Type: 'MC', LB_Code starts from 1 and ends at 64, incrementing serially. Similarly, for LB_Type: 'MCL' it is 1-37, and for LB_Type: 'NP' it is 1-64.
10	Ward_Name	string	Ward name in that particular municipality.
11	Ward_No	numeric	Ward number in that particular municipality.





12	Ward Bogornation	atrina	Pogonyation gatogory of the mad
12	Ward_Reservation	string	Reservation category of the ward, such as:
			- Unreserved - Unreserved (Women) - Backward Class - Backward Class (Women) - Most Backward Class - Other Backward Classes - Other Backward Classes (Women) - Schedule Caste - Schedule Caste (Women) - Schedule Tribe - Schedule Tribe (Women) - Other This information on the category of reservations is drawn from the sources.
13	OSN	numeric	Serial Number provided to the candidate, as drawn from the source.
14	Candidate_Name	string	Name of the candidate, in English.
15	Father_Husband_Nam e	string	Name of the father/husband of the candidate, in English.
16	Candidate_Name_O	string	Name of the candidate, in the original language from the source.
17	Father_Husband_Nam e_O	string	Name of the father/husband of the candidate, in the original language from the source.
18	Gender	string	Gender of the candidate, as follows: - Male - Female - Third Gender
19	Age	numeric	Age of the candidate.
20	Category	string	Caste category of the candidate, as follows: - Unreserved - Backward Class - Backward Class (Women) - Most Backward Class - Other Backward Classes





			- Schedule Caste - Schedule Caste (Women) - Schedule Tribe - Schedule Tribe (Women) - Other
21	Party_ID	string	Unique identification number of the Political Party from which the candidate contested the election. This number is mapped from the TCPD Political Parties of India Dataset (TCPD-PPI). For instance, the unique identifier for Bharatiya Janata Party (BJP) is 1605.
22	Party_Name		Name of the Political Party from which the candidate contested the election.
23	Party_Abbreviation		Abbreviation of the Political Party from which the candidate contested the election.
24	Education	string	Educational qualification of the candidate, as follows: - Illiterate - Literate - Primary - Middle - Higher - Inter - Graduate - Postgraduate - Other
25	Votes	numeric	Number of votes secured by the candidate.
26	Position	numeric	Position of the candidate in the municipal elections as per the votes secured.
27	Status	string	Marker to qualify candidates as uncontested or unknown
28	N_Cand	numeric	Number of candidates in the ward.
29	Valid_Votes	numeric	Sum of all votes to all candidates in a particular





			election for a particular ward.
30	Vote_Share_Percent age	numeric	Percentage Vote Share received by the candidate in a given ward.
			This is calculated by dividing the "Votes" secured by the candidate with total votes in the ward("Total_Votes").
			= Votes/ Total_Votes
31	Deposit_Lost	logical	Binary variable that indicates whether the candidate lost their deposit (1), or not (0).
32	Total_Electors	numeric	Total number of registered electors in the ward.
33	Total_Votes	numeric	Total votes polled in the ward, inclusive of rejected votes.
34	Rejected_Votes	numeric	Votes rejected out of the total votes polled in the ward.
35	Voter_Turnout_Perc entage	numeric	This is the percentage of eligible voters who turn out to vote in a ward. This is calculated by dividing the number of Total Votes ("Total_Votes") by the number of Total Electors ("Total_Electors").
			= Total_Votes / Total_Electors
36	Affidavit	string	Provides the name of the pdf file of the affidavit downloaded from the specified source for the particular candidate.
37	Notes	string	Contains any additional analytical information from the dataset.
			For instance, many exceptions mentioned in





	Section 5 of this codebook
	are marked against the
	respective rows in the
	dataset.

4. Table 2: Data Sources

No.	State/UT	Source
1.a	Uttar Pradesh	http://sec.up.nic.in/eleclive/IndividualULBResult.aspx
1.b		http://sec.up.nic.in/eleclive/NewWinnerList.aspx
2.a	Bihar	http://sec.bihar.gov.in/old-sec/UOptainVote.aspx
2.b		http://sec.bihar.gov.in/old-sec/UWCL.aspx
2.c		http://sec.bihar.gov.in/old-sec/letters/Letter%202748.pdf
3.a	Maharashtra	https://panchayatelection.maharashtra.gov.in/DashBoard/ElectionResult.aspx
3.b		https://mahasec.maharashtra.gov.in/Upload/PDF/Mnicipal%20 Council%20Report%202015%20%20to%20%202018.pdf
4	West Bengal	http://www.wbsec.gov.in/results/municipal_election_detail_ed_result
5	Telangana	https://tsec.gov.in/knowPRUrban.se
6.a	Kerala	http://117.239.77.93/trend/trend2015/views/lnkResultsUrban.php
6.b		http://sec.kerala.gov.in/images/lbheadsurban.pdf
7	Madhya Pradesh	https://mplocalelection.gov.in/iems/ub_rep/affidavit_rep.aspx
8.a	Rajasthan	http://sec.rajasthan.gov.in/cm/Upload/91-Municipal%20General%20Election%20Book-2021.pdf
8.b		https://sec.rajasthan.gov.in/PRI_Result.aspx?code=CEM





5. Documentation Process and Exceptions

For the data, the primary sources were the official State Election Commission websites of the states (refer to Table 2). As different sources had varying data representations, the extraction process was catered for each state to ensure consistency for each candidate in the ward, across the dataset.

The data was retrieved for *Municipal Corporation*, *Municipal Council* and *Nagar Panchayat ULBs*. The titles used to signify these ULB types vary across states, and for the sake of standardization were converted and confined to the above three across the dataset. For instance, *Municipal Corporation* is referred to as *Nagar Nigam* in Uttar Pradesh and Bihar, and *Mahanagar Palika* in Maharashtra. *Municipal Council* is referred to as *Nagar Palika Parishad* in Uttar Pradesh, Bihar, and Maharashtra and as *Municipality* in Kerala and Telangana. *Nagar Panchayat* is referred to as *Notified Area* in West Bengal.

Each ULB has two variables - LB_Type and LB_Code - that form a unique combination to identify it. If two ULBs have the same ULB Name across two districts in a state, they will be considered different, and hence their unique combination of LB_Type and LB_Code will be different. For instance, a ULB with the name Nagar Panchayat Jalalabad (LB_Type: NP, LB_Name: Jalalabad) exists in both Shamli and Bijnor districts in Uttar Pradesh, but the LB Code is 141 and 142 respectively.

Ward_No has been marked as 999 wherever an election took place for the position of President/Mayor of the ULB. Where Ward_Name and Ward_No were embedded together in a text, they were separated. For instance, Ward information as '11-Civil Line' in Uttar Pradesh was converted into Ward_No: 11 and Ward_Name: Civil Line.

Ward_Reservation and Category have been standardized while retaining the meaning. The below table explains the codification:

Codification	Keywords in Scraped Data
Backward Class	BC(G), backward class, पिछड़ा वर्ग
Backward Classes (Women)	BC(W), Backward Classes (Female), पिछड़ा वर्ग(महिला)
Scheduled Caste	scheduled caste, SC(G), SC, अनुसूचित जात
Scheduled Caste (Women)	SC(Female), SCW, SC(W), SC (Woman), अनुसूचित जाति(महिला)
Scheduled Tribe	scheduled tribe, ST(G), ST, अनुसूचित जनजाति
Scheduled Tribe (Women)	STW, ST(W), ST (Woman), अनुसूचित जनजाति(महिला)





Unreserved	UR(G), General, UR
Unreserved (Women)	W, Women, Unreserved (Female), UR(W), Unreserved (Women), General (Woman)
Other Backward Classes	OBC
Other Backward Classes (Women)	OBC (Woman)
Other	अन्य
Most Backward Class	अत्यन्त पिछड़ा वर्ग

Party_ID variable indicates the unique identification number for the political party from which the candidate contested the election. Based on the political party's expanded name or abbreviation available at the source, the number is mapped from the TCPD Political Parties of India Dataset (TCPD-PPI).

Party_Name variable indicates the expanded party name for the political party from which the candidate contested the election. When data about the political party at source had short form or abbreviation, the political party was mapped in TCPD Political Parties of India Dataset (TCPD-PPI) and the Party_Name(in TCPD-PPI) variable was retrieved.

Party_Abbreviation variable indicates the short form or abbreviation of the political party from which the candidate contested the election. When data about the political party at the source had expanded name, the political party was mapped in the TCPD Political Parties of India Dataset(TCPD-PPI) and the Frequent Abbreviation(in TCPD-PPI) variable was retrieved.

When the political party could not be mapped in the TCPD Political Parties of India Dataset (TCPD-PPI), the expanded name in case of abbreviation at source is retrieved through secondary research, and vice-versa, and, in such a case, the source is mentioned in the Notes variable. In addition, all the political parties not mapped with TCPD Political Parties of India Dataset (TCPD-PPI) have been given a unique identification with the starting letter as 'u' followed by numeric value starting from 10001. For instance, the first Party_ID would be u10001.

 N_Cand variable indicates the number of candidates in the ward. It is calculated after ignoring NOTA Values. NOTA has been added as a row entry in each ward wherever information is available.

Valid_Votes were counted by taking a summation of individual votes of all candidates in the ward. In instances where the vote was missing/blank, the vote count is considered zero. This is inclusive of NOTA wherever available.

Uncontested indicates the presence of a single candidate in the ward, except NOTA and the absence of the vote count for the candidate, suggesting the votes were not





polled. Status is marked as *Unknown* when the vote count for all the candidates in the ward is missing/zero, or in exceptional cases, as mentioned below in the 'Bihar' section.

Position is assigned based on the votes secured by each candidate. However, it is ensured that the NOTA value receives the last position, irrespective of the vote count. Wherever the vote count is the same for multiple candidates, positions are assigned in the order they appear in the dataset. Wherever explicit mention of the winning candidate was available it is ensured to position value 1. Various titles like 'elected', 'won', and 'winner' are considered as winning candidates.

 $Total_Votes$ is derived by taking the sum of $Valid_Votes$ and $Rejected_Votes$ in the ward.

Voter_Turnout_Percentage is ensured to be less than 100; where such a value
exceeds 100 it is left blank.

Furthermore, wherever the data was available in Hindi, it has been translated/transliterated into English. However, Candidate_Name and Father_Husband_Name are additionally maintained in their original language as obtained from the source in columns Candidate_Name_O and Father_Husband_Name_O respectively.

Listed below are state-specific exceptions:

Bihar:

The Year and $Polling_Date$ were marked based on the secondary sources (Refer to Table 2, 2. c).

Ward_Reservation information was extracted from the winner's list (refer to Table 2, 2. b).

ULB Elections in Bihar are non-partisan and therefore Party Affiliation of the candidates is not available.

Exceptions:

• Broken Links/ No Data Available encountered for the following ULBs/wards:

District	Urban Local Body
Purvi Champaran	Nagar Panchayat - Dhaka
Saran	Nagar Nigam - Chapra
Vaishali	Nagar Panchayat - Mahnar
Begusarai	No data





Banka	Nagar Panchayat - Banka
Rohtas	Nagar Panchayat - Bikramganj
Arwal	No data
Aurangabad	Nagar Panchayat - Daudnagar

- For District: Purvi Champaran, Municipal Council: Nagar Parishad Raxaul, Ward Number: 17, the winner mentioned (at Table 2, 2.b) could not be found as candidate in the ward (at Table 2, 2.a). Hence, for all the candidates in the ward, Status was marked as "unknown".
- Following wards could not be found in the winner's list (at 2.b, Table 3). Status marked as "unknown" for all the candidates in these wards.

District	ULB Name	Ward Number
Patna	Patna Nagar Nigam	73,74,75
Bhojpur	Nagar Nigam Ara	18
Gaya	Nagar Panchayat Tekari	6
Kishanganj	Nagar Panchayat Bahadurganj	13
Kishanganj	Nagar Parishad Kishanganj	5, 10
Muzaffarpur	Nagar Panchayat Motipur	6

• Following wards mentioned in the winner's list (at Table 2,2.b) could not be found in election data for all candidates (at Table 2,2.a). These have been added in the dataset.

District	ULB Name	Ward Number
Patna	Patna Nagar Nigam	22a, 22b, 22c

Kerala:

Exceptions:

• 'Leading' is considered as the winning candidate for one entry - LB_Type: MCL, LB_Code: 66. Ward_No: 35





Maharashtra:

Election Program dropdown menu on the website (at Table 2, 3. a) had an election date embedded in the text. The date extracted from the same was compared with the election date retrieved from the statistical reports (Table 3, 3. b), and the latest date from the two was considered. Furthermore, this date was used to find the number of unique dates against each ward to identify poll/bye-election and year. For example, ULB Lonar, Maharashtra (LB_Type: MCL, LB_Code: 39 , Ward_No: 5) the date of election as per statistical report is 2014-03-23, however as per the Election Program: 'Palghar - Lonar and Sindkhedraja Nagar Parishad Member General Election Date- 24-03-2019' the election date is 24-03-2019. In such cases, this embedded date was extracted and Year is derived.

Many wards have multiple seats, and in such cases, the unique combination of <code>Ward_No</code> and <code>Seat</code> can be used to identify the respective election information. Ward Information was available in the format 'numeric-text' which has been separated - numeric: <code>Ward_No</code>, text: <code>Ward_Name</code>. In many cases the <code>Ward_Name</code> is numeric, when the information available was 'numeric-numeric'.

Position 1 is an implicit winner or elected candidate as data with explicit mentioning of elected candidates was not available.

Exceptions:

- For the broken links, that could be recognised with the presence of missing values/blanks in the variable names Local Body, Election Program, and Ward/Division_Code, such entries were removed from the dataset as these entries had no information.
- The *Polling_Date* in some cases has only Month or/and Year value as in some cases the latest value was extracted from the Election Program string.

Rajasthan:

Exceptions:

• Gender variables for 63 entries had values as O/O, and such values have been removed and left blank. As these cannot refer to Third Gender/Other Gender because, as per the statistical report (refer 8.a Table 2 no Third Gender contested in any ULB).

Telangana:

Ward Information was available in the format 'numeric-text' which has been separated into numeric: Ward_No and text: Ward_Name. In many cases the Ward_Name is numeric, when the information available was 'numeric-numeric'.

The website identifies a single candidate in a ward with 0 vote count as 'Unanimous'. Hence, in Telangana 'Uncontested' appears with a single candidate in a ward with zero 'Votes' in the Status.

Exceptions:

• Data is not available for any election for Mulugu District.





• Below table demonstrates the availability/non-availability of data

Election Type	Identifier in the Dataset	District/ULB Name/Ward
ELECTIONS TO GREATER HYDERABAD MUNICIPAL CORPORATION, 2020	Year: 2020 District: Hyderabad LB_Type: MC LB_Name: GHMC LB_Code: 11	Data available for Hyderabad(GHMC)
ORDINARY ELECTIONS TO MUNICIPALITIES , 2020	Year: 2020 All, except District: Hyderabad, LB_Type: MC, LB_Name: GHMC, LB_Code: 11	Data Not Available for : Mulugu, Mancherial (Mandamarri), Bhadradri (Manuguru, Palvancha), Warangal Urban(GWMC, GWMC West), Sangareddy (Zaheerabad), Siddipet(Siddipet), Hyderabad(GHMC), Rangareddy (Jilelaguda, Kothur), Mahabubnagar(Jadcherla), Nagarkurnool (Achampet), Nalgonda (Nakrekal), Khammam (Khammam MC)
Casual Elections to GHMC, 2021	Year: 2021 Poll: 1 District: Hyderabad LB_Name: GHMC	Data available only for Hyderabad(GHMC), Ward 18
CASUAL ELECTIONS TO MUNICIPALITIES AND MUNICIPAL CORPORATIONS, 2021	Year: 2021 Poll: 1 All, except District: Hyderabad, LB_Type: MC, LB_Name: GHMC, LB_Code: 4	Data available only for the following: Mancherial (Bellampally) - Ward 30, Nizamabad Bodhan) - Ward 18, Jagtial (Metpalli) - Ward 8, Warangal Rural(Parakal) - Ward 9, Siddipet(Gajwel) - Ward 12, Rangareddy(Jalpally) - Ward 28, Nalgonda (Nalgonda) - Ward 26
ORDINARY ELECTIONS TO MUNICIPALITIES AND	Year: 2021 Poll: 0	Data available only for the following:





MUNICIPAL	TI (OTPIC)
CORPORATIONS, 2021	Warangal Urban(GWMC),
	Siddipet (Siddipet),
	Rangareddy (Kothur),
	Mahabubnagar(Jadcherla),
	Nagarkurnool(Achampet),
	Nalgonda(Nakrekal),
	Khammam (Khammam MC)

• Inconsistency encountered for ward [Year: 2020, Poll: 0, LB_Type: MCL, LB_Code: 112, Ward_No: 6]: the elected candidate votes were found to be lesser than other candidates in the ward. However, since the valid votes for wards stood at 722, while the sum of all candidates was 456, the difference indicates a typo error in the data.

Uttar Pradesh:

Deposit_Lost is informed for the state of Uttar Pradesh only, as bail confiscation information could be found only for the same.

Exceptions:

- Data is not available for the following ULBs:
 - Post: Nagar Panchayat Adhyaksh, District: Kaushambi, ULB: Nagar Panchayat-2-Bharwari
 - 2. Post: Nagar Panchayat Sadasya, District: Kaushambi, ULB: Nagar Panchayat-2-Bharwari

West Bengal:

Position 1 is an implicit winner as data with explicit mentioning of winning/elected candidates was not available.

Exceptions:

- For ULB Darjeeling [Year: 2011, LB_Type: MCL, LB_Code: 109], there is only one candidate per ward, with missing vote information.
- Data for ward [Year: 2015, LB_Type: MC, LB_Code: 1, Ward_No: 56] had 2 polling dates, however since the difference in the dates is 1 i.e. adjacent. The Poll is marked as 0 considering the election for the ward had a span of two days.
- Data for ward [Year:2015, LB_Type: MC, LB_Code: 3, Ward_No: 74] had two polling dates as 05-09-2015 and 03-10-2015. For the former date, the votes information was missing, while the candidate information was the same on both the dates. Furthermore, for all the other wards in the ULB, the election took place on a later date. Hence, row entries with the former date have been removed.

6. Table 3: Data Availability for State





Variable	Bihar	Kerala	Madhya Pradesh	Mahara shtra	Rajast han	Telang ana	Uttar Pradesh	West Bengal
State_Name	✓	√	✓	✓	√	✓	✓	✓
Year	√	√	√	✓	√	✓	√	✓
Polling_Dat e	>	X	X	√	√	X	X	✓
Seat	X	X	X	✓	X	X	X	X
Poll_No	X	X	√	✓	Χ	✓	X	✓
District	✓	✓	✓	✓	✓	✓	✓	✓
LB_Name	✓	1	✓	✓	✓	✓	√	✓
LB_Type	✓	1	1	1	1	1	1	1
LB_Code	✓	1	✓	✓	✓	✓	√	✓
Ward_Name	X	1	X	1	X	Χ	1	Χ
Ward_No	✓	✓	✓	✓	✓	✓	✓	✓
Ward_Reserv	1	Χ	X	X	1	1	✓	✓
OSN	✓	√	✓	X	X	✓	X	✓
Candidate_N ame	>	\	✓	√	√	√	✓	✓
Father_Hu sband_Nam e	✓	X	✓	Χ	X	X	✓	X
Candidate _Name_O	1	Χ	1	1	1	Χ	1	X
Father_Hu sband_Nam e_O	\	X	1	X	X	X	1	X
Gender	1	X	✓	Χ	1	Χ	✓	X





Age	1	Χ	✓	X	1	Χ	✓	X
Category	1	X	✓	Χ	✓	X	✓	X
Party	Χ	1	✓	1	✓	✓	✓	1
Education	1	X	X	Χ	X	X	✓	X
Votes	1	1	X	1	1	1	1	1
Position	1	√	X	1	✓	✓	✓	1
Status	1	√	X	1	√	✓	√	1
N_Cand	1	√	X	√	√	√	√	1
Valid_Vot es	1	√	Χ	✓	√	√	1	1
Vote_Shar e_Percent age	1	1	X	1	1	✓	✓	1
Deposit_L ost	Χ	X	Χ	X	X	X	1	X
Total_Ele	Χ	X	Χ	X	X	1	1	1
Total_Vot	1	✓	Χ	1	✓	✓	1	1
Rejected_ Votes	X	X	Χ	X	X	✓	X	1
Voter_Tur nout_Perc entage	X	X	Χ	X	X	√	1	✓
Affidavit	Χ	X	√	X	X	X	X	X





Notes / / / / / /	✓	√		✓	✓	1	1	✓	1	1		
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7. Acknowledgments

We thank our interns - Aninthitha Nath, Abhishek Nayak, and Rikit Shahi who provided invaluable assistance to the project.

8. Version History

S.No.	Description	Release Date	Version
1.	Initial Release	29 June 2022	v1.0