

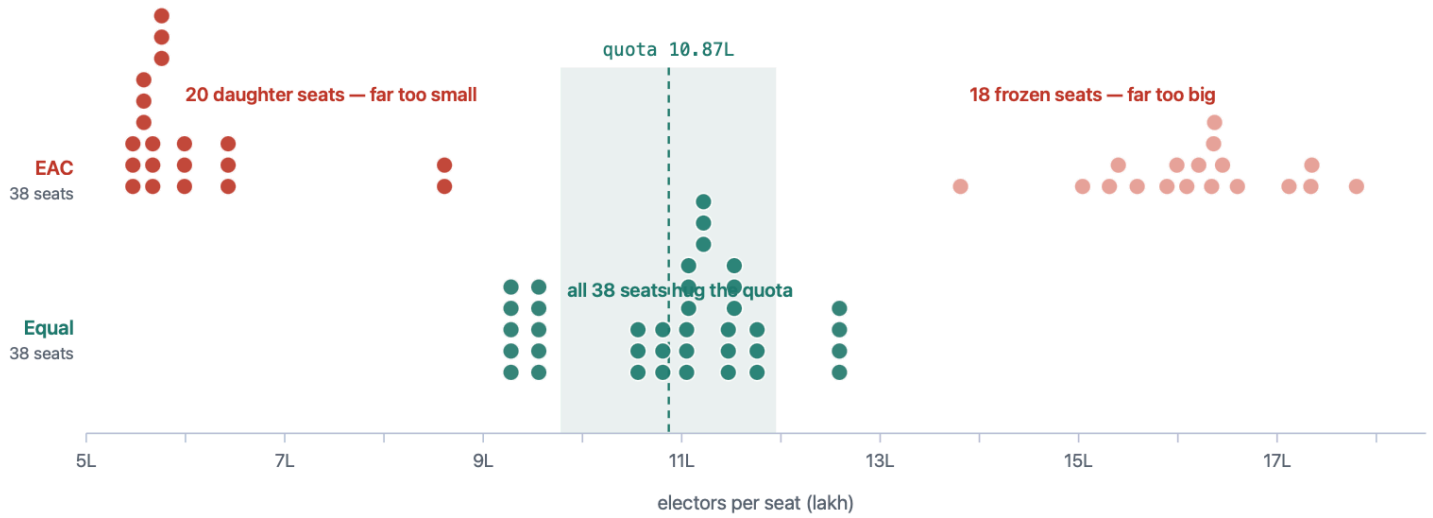
PM - EAC Proposal Vs Equal Elector Model Comparison

2025 Roll Electors to proposed MPs	4,13,00,000 38 MPs	=	~10.8 Lakh Electors Per MP	Limit	+10% Dev	11.88 Lakh Electors per MP
					-10% Dev	9.72 Lakh Electors per MP

PC ID	PC Name	2025 ECI Electors (In Lakhs)	PM-EAC Model Criteria Split Decision	PM-EAC PC Count	PM-EAC Model - Electors after Split in PC (In Lakhs)	Deviation from Quota	Eq-EI PC Count	Equal-Elector Model Criteria - Geography	Equal-Elector Model Electors per PC (In Lakhs)	Deviation from Quota
1	Araku	15.59	frozen	1	15.59	43.50%	5	G1	9.56	-12.00%
2	Srikakulam	16.34	frozen	1	16.34	50.40%		G1	9.56	-12.00%
3	Vizianagaram	15.89	frozen	1	15.89	46.20%		G1	9.56	-12.00%
G1 - Electors		47.82						=47.82/5	9.56	
4	Visakhapatnam	19.28	3-way (named)	3	6.43	-40.80%	3	G2	11.76	8.20%
5	Anakapalli	15.99	frozen	1	15.99	47.10%		G2	11.76	8.20%
G2 - Electors		35.27						=35.27/3	11.76	
6	Kakinada	16.37	frozen	1	16.37	50.60%	3	G3	10.56	-2.90%
7	Amalapuram	15.31	frozen	1	15.31	40.90%		G3	10.56	-2.90%
G3 - Electors		31.68						=31.68/3	10.56	
8	Rajahmundry	16.21	frozen	1	16.21	49.20%	5	G4	9.28	-14.60%
9	Narasapuram	13.81	frozen	1	13.81	27.10%		G4	9.28	-14.60%
10	Eluru	16.36	frozen	1	16.36	50.50%		G4	9.28	-14.60%
G4 - Electors		46.38						=46.38/5	9.28	
11	Machilipatnam	15.4	frozen	1	15.4	41.70%	3	G5	10.81	-0.60%
12	Vijayawada	17.01	3-way †	3	5.67	-47.80%		G5	10.81	-0.60%
G5 - Electors		32.41						=32.41/3	10.81	
13	Guntur	17.98	3-way †	3	5.99	-44.90%	4	G6	12.59	15.90%
14	Narasaraopet	17.35	frozen	1	17.35	59.60%		G6	12.59	15.90%
15	Bapatla	15.04	frozen	1	15.04	38.40%		G6	12.59	15.90%
G6 - Electors		50.37						=50.37/3	12.59	
16	Ongole	16.09	frozen	1	16.09	48.10%	3	G7	11.07	1.90%
22	Nellore	17.12	frozen	1	17.12	57.50%		G7	11.07	1.90%
G7 - Electors		33.21						=33.21/3	11.07	
17	Nandyal	17.27	3-way (named)	3	5.76	-47.00%	3	G8	11.53	6.10%
18	Kurnool	17.34	frozen	1	17.34	59.60%		G8	11.53	6.10%
G8 - Electors		34.61						=34.61/3	11.53	
19	Anantapur	17.8	frozen	1	17.8	63.80%	3	G9	11.47	5.50%
20	Hindupur	16.6	frozen	1	16.6	52.70%		G9	11.47	5.50%
G9 - Electors		34.4						=34.4/3	11.47	
21	Kadapa	16.41	3-way (named)	3	5.47	-49.70%	3	G10	11.05	1.70%
24	Rajampet	16.74	3-way (named)	3	5.58	-48.70%		G10	11.05	1.70%
G10 - Electors		33.15						=33.15/3	11.05	
23	Tirupati	17.22	2-way (named)	2	8.61	-20.80%	3	G11	11.22	3.20%
25	Chittoor	16.45	frozen	1	16.45	51.40%		G11	11.22	3.20%
G11 - Electors		33.67						=33.67/3	11.22	

Where the 38 seats land

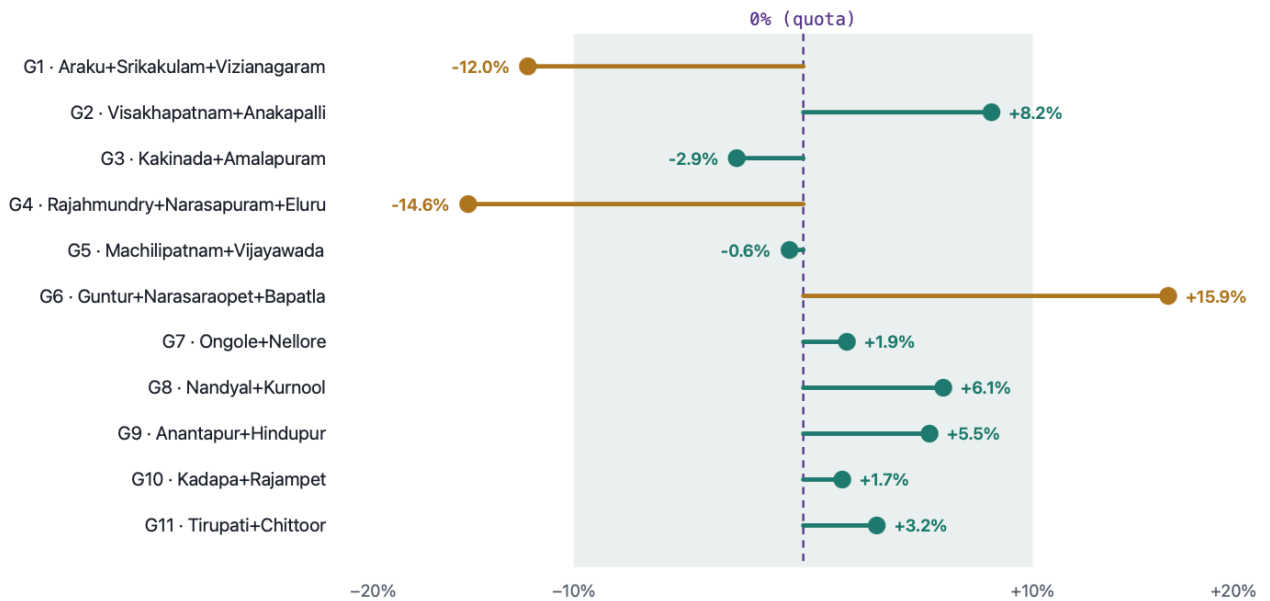
Electors per seat, in lakhs · ECI 2025 rolls · band = quota ±10% (9.78–11.95 lakh)



- EAC model — split-seat daughters (5.5–8.6 lakh)
- EAC model — 18 untouched seats (13.8–17.8 lakh)
- Equal-Elector Plan — all 38 seats

Equal-Elector Plan: deviation of each group from the quota

Per-seat average vs 10.87 lakh ideal · shaded band = ±10% target · 3 of 11 groups slightly outside, flagged honestly



The Turnout Trap

Andhra Pradesh Case Study: Why the PM-EAC's Delimitation Model Risks Gerrymandering India's Democracy

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"Delimitation is not an exercise in municipal traffic routing or behavioral nudging; it is the geometric layout of a republic's soul. Recently published PM-EAC, government advisory model reduces the sacred right of representation to a logistical math problem designed to shorten lines at polling booths."

As India approaches its monumental post-2026 constitutional delimitation exercise, the question of how we re-map our democracy has moved from administrative backrooms to the center stage of national debate. A highly publicized working paper by the Economic Advisory Council to the Prime Minister (EAC-PM), authored by Dr. Shamika Ravi and Dr. Mudit Kapoor, has proposed a sophisticated, algorithmic method for redrawing boundaries. Instead of dividing new legislative seats evenly based on population, their model uses a predictive statistical formula to target specific constituencies. It isolates high-density areas and slices them into multi-way seats, explicitly trying to maximize voter turnout and ease urban booth congestion.

While using behavioral predictive algorithms to optimize voting maps sounds like forward-thinking engineering, applying it to a nation's sovereign franchise is profoundly dangerous. By designing maps around *turnout analytics* rather than strict *population parity*, the government advisory model accidentally creates a mechanism for systemic structural inequality.

To understand the core flaw of the government's approach, we can look at a cleaner, fully transparent alternative: **The Equal-Elector Plan** (also known as the Proportional Parity Model). Using the Election Commission of India's (ECI) 2025 electoral rolls as a real-time proxy for the upcoming census population, we can take Andhra Pradesh—where Lok Sabha seats are slated to scale from 25 to 38—as a clear case study to show why simple arithmetic must triumph over complex predictive modeling.

1. The Core Conflict: People vs. Predictions

At the heart of the debate lie two completely different rulers used to measure the exact same map:

The Government Advisory Model (EAC-PM):

This model trains a complex statistical algorithm on data from past elections to predict where voter turnout would rise the most if an existing constituency were chopped up into two or three pieces. The model then spends the state's newly gained seats exclusively on these "high-gain" zones. In Andhra Pradesh, this translates to tripling the representation of a few cities while leaving 18 out of 25 constituencies completely frozen and untouched.

The Equal-Elector Plan:

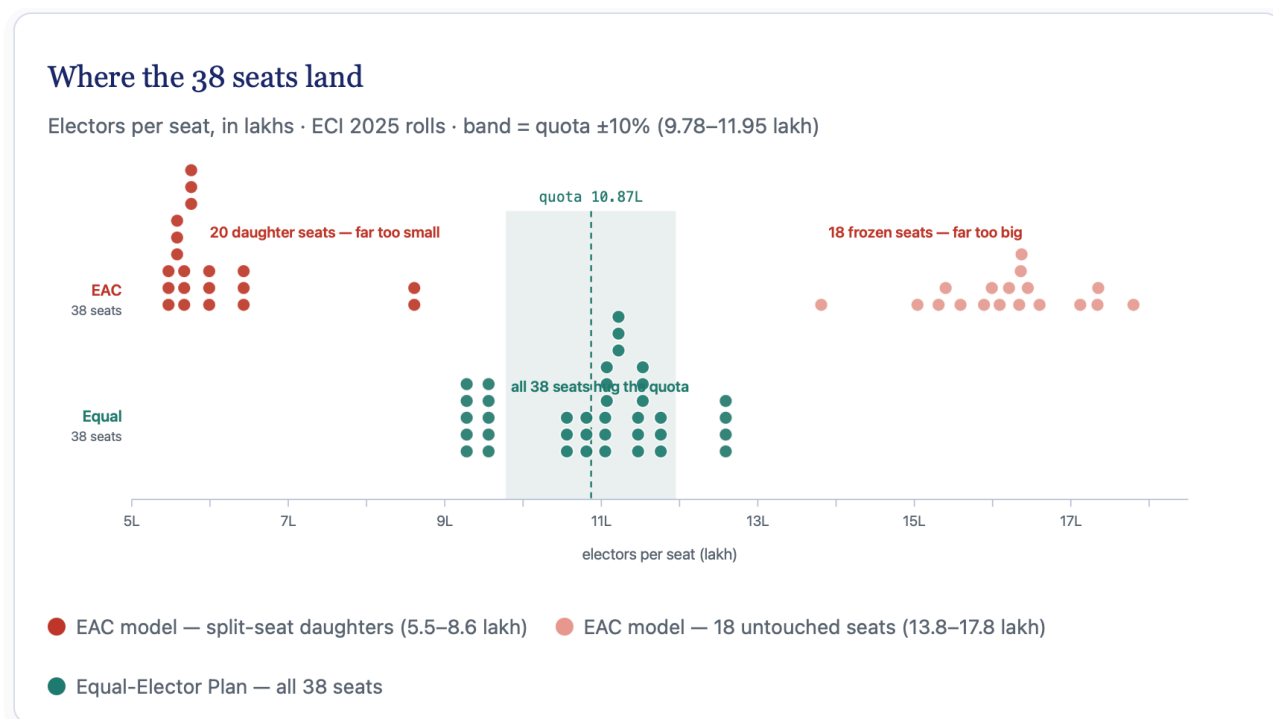
This model throws out predictive guesswork entirely. It operates on democracy's oldest and most sacred principle: **Every single citizen's vote must carry equal weight**. It takes total voter numbers, calculates a uniform "State Elector Quota" (the ideal average number of voters per Member of Parliament), blends neighboring constituencies into natural regional groups, and distributes the 38 seats proportionally so that every MP represents an almost identical slice of human lives.

The visual reality of this conflict is stark. As shown in the data visualizations of the plan, the government's model splits Andhra Pradesh into two entirely separate realities: a cluster of tiny, hyper-fragmented urban seats on one side, and a collection of giant, overstretched rural seats on the other. Not a single seat lands within a fair, balanced zone. The Equal-Elector Plan, conversely, ensures that every single seat hugs the fair quota baseline.

2. The Blueprint: How the Two Models Split Andhra Pradesh

To maintain the state's exact target of 38 Lok Sabha seats, the EAC-PM model applies a rigid formula to the map: it selects exactly **6 constituencies for a massive 3-way split** (generating 18 seats), **1 constituency for a 2-way split** (generating 2 seats), and leaves the remaining **18 constituencies completely frozen at 1 seat each**.

All 38 Seats, 2 Versions - plotted side-by-side:



The table below contrasts this turnout-driven allocation against the population-aligned **Equal-Elector Plan**, revealing where representation is distorted:

Lok Sabha Seat Allocation for Andhra Pradesh (Total: 38 Seats)

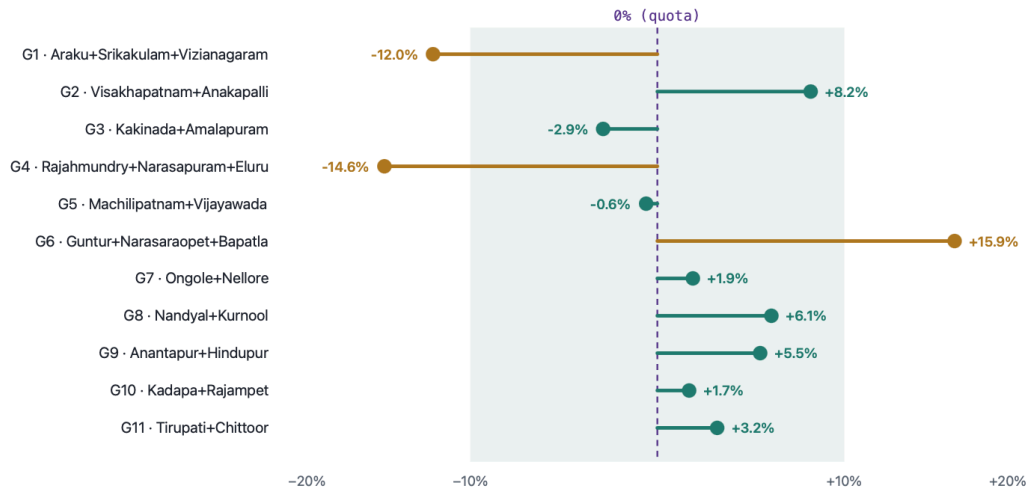
Based on ECI 2025 Electorate Data; Ideal State Quota (\$P\$) = 10.87 Lakh Voters per MP

Group	Regional Constituency Composition	Total Combined Voters (ECI 2025)	The Equal-Elector Plan (Balanced at ~10.87L per MP) [Equal Model]	The EAC-PM Turnout Model (6 × 3-way, 1 × 2-way, 18 frozen) [EAC Model]
1	Araku + Srikakulam + Vizianagaram	47.82 Lakh	5 Seats (~9.56L per seat)	3 Seats (~15.94L average)
<p>Impact: Severe Under-representation. The Equal-Elector Plan expands this massive regional block to 5 seats to protect human lives. The PM-EAC model leaves all three frozen at 1 seat each because they lack urban density, stripping the rural and tribal north of 2 rightful MPs.</p>				
2	Visakhapatna m + Anakapalli	35.27 Lakh	3 Seats (~11.76L per seat)	4 Seats (Mixed sizes)
<p>Urban Bloat: The PM-EAC model singles out Visakhapatnam for an independent 3-way split (giving it 3 seats alone) while freezing Anakapalli at 1. This clusters extra power inside the urban center.</p>				
3	Kakinada + Amalapuram	31.67 Lakh	3 Seats (~10.56L per seat)	2 Seats (~15.84L average)
<p>Delayed Growth: Both constituencies are left completely frozen at 1 seat each under the PM-EAC model, failing to account for their combined population size.</p>				
4	Rajahmundry + Narasapuram + Eluru	46.38 Lakh	5 Seats (~9.28L per seat)	3 Seats (~15.46L average)
<p>Rural Deficit: The Equal-Elector Plan smoothly grants 5 seats across this geography. The PM-EAC model freezes them all at 1 seat each, causing rural voters to be heavily under-represented.</p>				
5	Machilipatnam + Vijayawada	32.42 Lakh	3 Seats (~10.81L per seat)	4 Seats (Mixed sizes)
<p>Algorithmic Skew: The PM-EAC model triggers a heavy 3-way split for urban Vijayawada (3 seats) while freezing rural Machilipatnam at 1.</p>				
6	Guntur + Narasaraopet + Bapatla	50.38 Lakh	4 Seats (~12.59L per seat)	5 Seats (Mixed sizes)
<p>Urban Concentration: Urban Guntur undergoes a 3-way split under the PM-EAC formula, while its rural neighbors remain locked at 1 seat each.</p>				

Group	Regional Constituency Composition	Total Combined Voters (ECI 2025)	The Equal-Elector Plan (Balanced at ~10.87L per MP) [Equal Model]	The EAC-PM Turnout Model (6 × 3-way, 1 × 2-way, 18 frozen) [EAC Model]
7	Ongole + Nellore	33.21 Lakh	3 Seats (~11.07L per seat)	2 Seats (~16.61L average)
The Frozen Belt: Both constituencies remain locked at 1 seat each under the PM-EAC model, keeping voter-to-MP ratios layout excessively high.				
8	Nandyal + Kurnool	34.60 Lakh	3 Seats (~11.53L per seat)	4 Seats (Mixed sizes)
Localized Inflation: Nandyal undergoes an isolated 3-way split under the PM-EAC model, distorting the geographic balance with Kurnool.				
9	Anantapur + Hindupur	34.41 Lakh	3 Seats (~11.47L per seat)	2 Seats (~17.20L average)
Rayalaseema Deficit: Because this region lacks a mega-metropolitan hub with high "turnout elasticity," the government model freezes both at 1 seat, losing a vital MP compared to a fair population plan.				
10	Kadapa + Rajampet	33.15 Lakh	3 Seats (~11.05L per seat)	6 Seats (~5.52L average)
Hyper-Fragmentation: The PM-EAC model triggers 3-way splits for <i>both</i> Kadapa and Rajampet, flooding this single block with 6 seats, effectively giving these voters double the voting power of their neighbors.				
11	Tirupati + Chittoor	33.67 Lakh	3 Seats (~11.22L per seat)	3 Seats (Mixed sizes)
Tirupati gets a 2-way split under the PM-EAC plan while Chittoor is frozen. While the cluster total matches, the internal boundary weights remain heavily warped.				
Andhra Pradesh State Total		4.13 Crore	38 Seats (All regularized)	38 Seats (Stacked in pockets)
The Equal-Elector Plan spreads seats evenly across human beings. The PM-EAC model herds 20 seats into just 7 split pockets, freezing the other 18.				

Equal-Elector Plan: deviation of each group from the quota

Per-seat average vs 10.87 lakh ideal · shaded band = ±10% target · 3 of 11 groups slightly outside, flagged honestly



3. Three Fatal Flaws of the Government's Model

When stripped of its complex mathematical presentation, the government's predictive model reveals three deep flaws that fundamentally weaken democratic representation:

Flaw A: Fracturing the Principle of "One Value"

Democracy's first arithmetic rule is that all votes must weigh the same. Under a fair system, an MP in a village and an MP in a city should speak for a comparable number of citizens. The Equal-Elector Plan achieves this, bringing the gap between the heaviest and lightest vote down to a minor fraction.

The government model breaks this by design. It leaves large regions like Anantapur or Srikakulam completely frozen at over 17 lakh voters per MP, while creating tiny, hyper-split seats right next door in Kadapa or Rajampet with barely 5.5 lakh voters. This creates an astonishing **3.25-to-1 disparity gap**. A single voter in a freshly split daughter-seat is effectively given nearly three times the political say of a voter in a frozen neighboring district. This isn't a minor rounding error; it is built-in institutional inequality.

Flaw B: The Paradox of Rewarding "Urban Apathy"

The EAC-PM working paper openly acknowledges a well-known reality in Indian elections: rural and Scheduled Tribe (ST) populations consistently display some of the highest, most dedicated voter turnout rates in the country, while wealthy mega-cities frequently suffer from severe "urban apathy."

Yet, because the PM-EAC's algorithm builds its map to maximize *potential future turnout increases*, it creates a bizarre penalty structure. It showers extra parliamentary seats onto low-turnout urban centers under the guise of making voting "easier" and reducing queue lines at congested booths.

Meanwhile, it structurally freezes and under-represents the highly disciplined rural and tribal populations that have faithfully stood in line to exercise their civic duty for decades.

Flaw C: The Threat of Opaque Political Steering

Delimitation maps must be simple enough for any ordinary citizen to understand and trust. When an algorithm decides which districts get to multiply and which are frozen based on an opaque, multi-variable statistical model tracking urban covariates and linguistic diversity index curves, it creates a massive black box.

In any state, urban and rural populations display distinctly different voting behaviors and party preferences. By using a predictive model to harvest a dense cluster of new seats directly out of specific urban pockets while shrinking the rightful weight of rural clusters to stay under the state's 38-seat cap, the map inherits the politics of those complex data settings. It creates an unintended backdoor for systemic political steering.

4. Why the Simple Arithmetic Model is Correct

The Equal-Elector Plan is superior to the clever predictive model for five clear reasons:

1. **Absolute Voter Parity:** It ensures that every citizen's voice counts equally, keeping the vote weight of all residents balanced within a tight, uniform margin.
2. **Constitutional Compliance:** Article 81 of the Indian Constitution explicitly requires that the ratio between the population of each constituency and the number of seats allotted to it be, "so far as practicable, the same throughout the State." The Equal-Elector Plan directly honors this population-parity command, whereas the turnout model rejects it entirely to optimize for booth logistics.
3. **Mathematical Stability:** Statistical models are notoriously volatile. The EAC paper's own predicted turnout benefit swings wildly by an **eight-fold range** depending on which subtle version of their model is chosen. Pure population arithmetic, however, doesn't change its mind. Long division yields the exact same answer on every computer, every single time.
4. **Complete Neutrality:** A rule that counts only *people* cannot be steered, altered, or manipulated by any political party or mathematical designer. It remains perfectly blind to voting patterns, language, and geography.
5. **Radical Transparency:** Replicating the PM-EAC advisory map requires specialized data pipelines, advanced statistical software, and complex optimization code. Replicating the Equal-Elector Plan requires nothing more than public voter roll data and a basic calculator.

Delimitation is not an exercise in municipal traffic routing or behavioral nudging; it is the geometric layout of a republic's soul. The government advisory model reduces the sacred right of representation to a logistical math problem designed to shorten lines at polling booths. To protect the long-term integrity of our franchise, India must reject opaque algorithmic target-splitting and embrace the absolute clarity, fairness, and transparency of the **Equal-Elector Plan**.