Malapportionment of Constituencies:

Analysis of the 2016 Redelineation Proposal (First Display) for the Peninsula and Sabah and the 2015 Redelineation Exercise for Sarawak

Version 2.0
October 14, 2016

Prepared by

Dr Wong Chin Huat
Yeong Pey Jung
Ooi Kok Hin

PENANG
INSTITUTE
making ideas work

10, Brown Road, 10350 Penang

Table of Contents

INTRODUCTION

Minimising Malapportionment Is A Key Purpose Of Redelineation

This is an overall analysis of malapportionment of 200 Parliamentary and 600 State constituencies in Malaysia, based on the Election Commission's report to the Parliament on the 2015 Sarawak redelineation exercise and the 2016 redelineation proposal for the Peninsula states and Sabah which is on public display for 30 days from September 15 to October 14. The only exclusion in this report is Putrajaya and Labuan which are state-level units but have no sub-division for either parliamentary or state constituencies.

Why do we need constituency redelineation?

Constituency redelineation[1] is a regular process to correct distortions of constituency boundaries. As constituency boundaries determine the size and composition of electorates, the distortions correspondingly fall into two types.

The first type of distortion is uneven electorate size of constituencies, which result in unequal vote value across constituencies. Voters living in over-sized constituencies are under-represented while voters living in under-sized constituencies are over-represented. When such disparity of constituency size is caused by the redelineation exercise itself, it is called **malapportionment**.[2]

Uneven constituency sizes can be caused by either malapportionment in previous exercises or demographic changes which make some equally-apportioned constituencies to be oversized and others to be undersized. The latter can happen naturally with urbanisation, where new growth centres attract influx of voters from other areas, or with an even rise in voter registration.

The second type of distortion is unrepresentative constituency boundaries that prevent best representation of voters' interests. If the ideal size of a constituency is 10,000, does it make a difference if these 10,000 voters are, in the first scenario, 10,000 randomly-grouped strangers with very diverse interests, or, in the second scenario, 10,000 well-connected members of a local community with common interests? Surely, the 10,000 voters in the second scenario can better organise themselves to choose a lawmaker that best represent their interests. And what happens if the 10,000 community members find themselves evenly distributed to five constituencies? Can they have more effective representation as a 20% minority than if they are grouped together in one constituency?

Unlike disparity in constituency size, there is no objective way to determine the best boundaries because people have different interests and consequently, different ideas of who

---

[1] It is also sometime termed as "redelimitation", as in the Federal Constitution.

[2] Conceptually, disparity is the state of unequal constituency size while malapportionment is the act that causes, amplifies or sustains disparity in a redelineation exercise. Strictly speaking, in between Redelineation exercises, there is no malapportionment but disparity may persist and worsen. For the ease of public reference, we will use "malapportionment" throughout and when the context is the period between redelineation exercises, it should be understood as "disparity".

share their common interests. Having said that, it is clearly wrong and undermining the purpose of having elections if constituency boundaries are deliberately drawn based on voting pattern of constituents so that a party may dominate more constituencies and win more seats than their support warrant. Such unscrupulous practice is called **gerrymandering**.[3] The term "gerrymander" was coined in the United States in the 19th century after the then Governor of Massachusetts, Elbridge Gerry, who created an odd-shaped constituency that looked like a salamander.

Unrepresentative boundaries can be caused by administrative, economic, infrastructural, socio-cultural and demographic changes that redefine communities. It can also be due to gerrymandering done in previous redelineation exercises.

Redelineation exercises are needed fundamentally to mitigate malapportionment of constituencies and unrepresentative boundaries. In some countries, even projected demographic growth and movement are taken into account to prevent emergence or worsening of malapportionment before the next redelineation exercise.

In Malaysia, constituency redelineation is often misunderstood and associated with two other purposes.

The first misconstrued purpose is to create new constituencies as the number of legislative seats increases. This perception is due to the chronic practice of increasing legislative seats hand-in-hand with redelineation exercise. In many countries, the number of seats is fixed despite population growth and redelineation means reallocating legislative seats from regions that have lower or negative population growth to those with higher population growth. In Malaysia, the idea of taking away constituencies from states with reducing demographic weight is hugely unpopular and never undertaken, because having an elected representative often means having more patronage opportunities.

The second misconstrued idea is to keep the government in power. This cynicism turned redelineation exercises which were supposed to correct malapportionment and gerrymandering into sprees of malapportionment and gerrymandering. As a result, redelineation was often concentrated on marginal constituencies where gerrymandering could tip off the balance while stronghold constituencies of either the ruling coalition or the opposition parties were involved only for the purpose of malapportionment or creation of new constituencies.

How do we know if there is malapportionment?

Malapportionment is deviation from the average, at whatever level the constituencies are grouped.

---

[3] Often, what is labelled gerrymandering in public discussions is actually malapportionment. The two can be easily distinguished by asking: "What are being manipulated? Electorate size or electorate composition?" If it is about size, the problem is malapportionment. If it is about composition, the problem is gerrymandering.

It can be shown by sorting the constituencies in ascending order based on their electorate size, as in Graph A, for malapportionment of proposed parliamentary constituencies in Selangor, one of the worst victims of the 2016 redelineation proposal. Here we can see easily how uneven the proposed constituencies are in term of electorate size, ranging from the smallest Sabak Bernam (37,126 voters) to Damansara (150,439 voters). The ratio of the largest constituency to the smallest one is 4.05. We can further calculate their average (95,063 voters) and the band of acceptable deviations, say, the average plus and minus 33.33% (126,751 and 63,375). Equal apportionment would mean that all bars in almost equal heights surrounding the average line.

Graph A: Malapportionment of Parliamentary Constituencies in Selangor under the 2016 Redelineation Proposal (First Display)
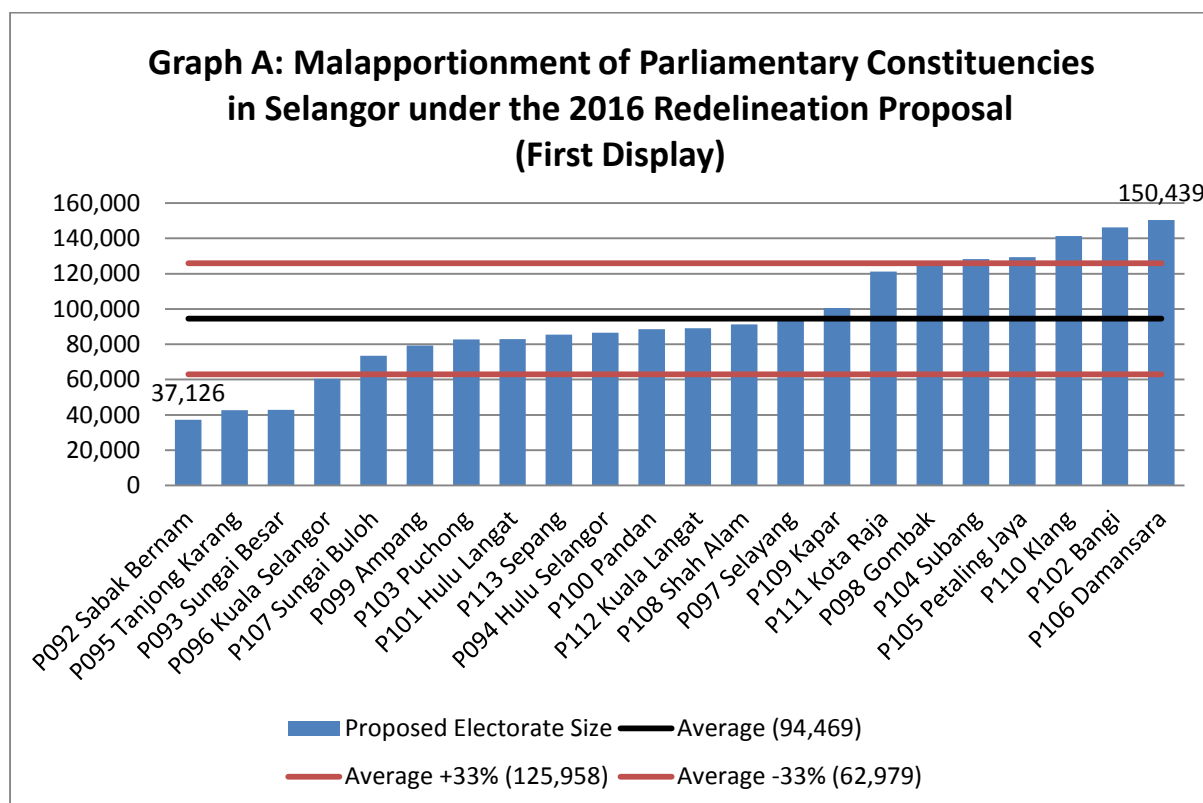
We can also present malapportionment more directly as deviation from the average, as in Graph B for the same set of data. Here we calculate the deviation of each constituency from the average. For example, Damansara's 150,439 voters is 161.11% of the average (95,063), and the deviation is 61.11%. Similarly, Sabak Bernam's 37,126 is 39.76% of the average (95,063), and the deviation is -60.24%.
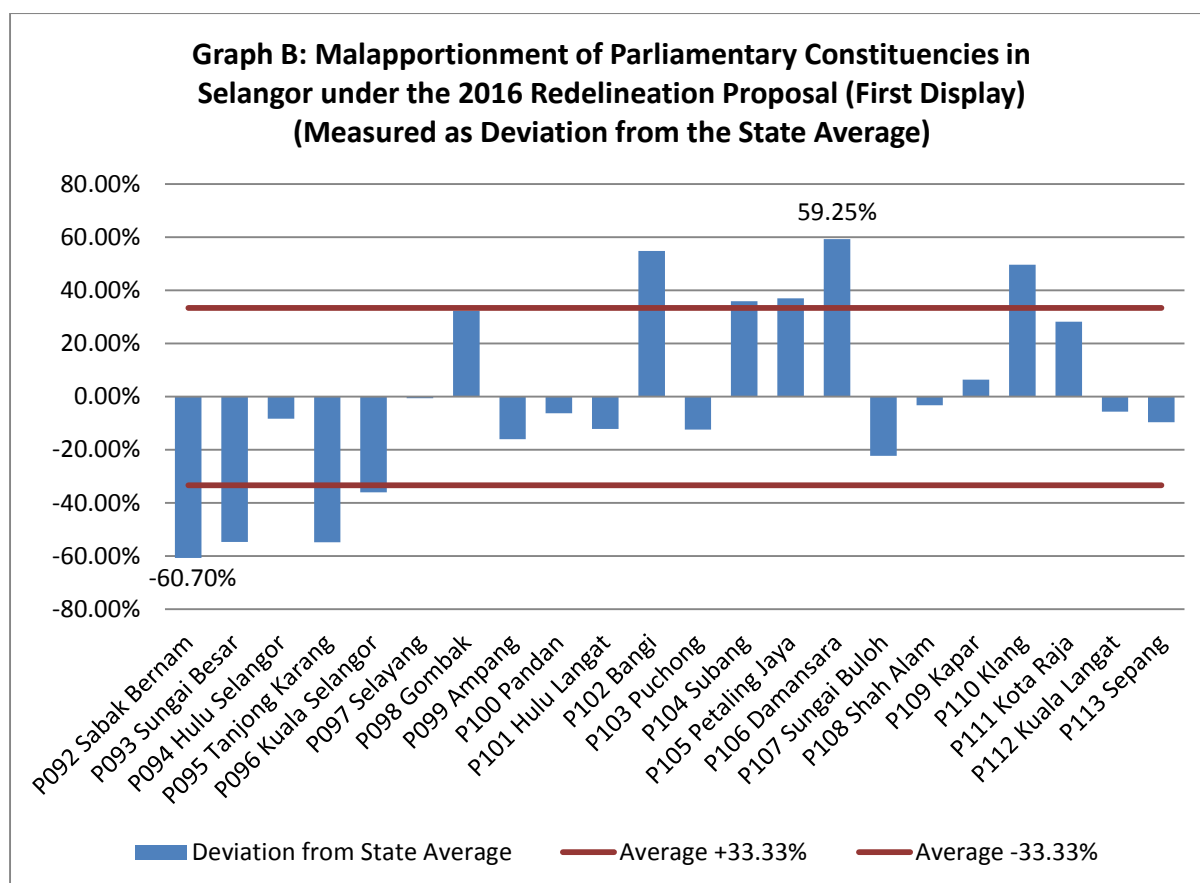
Equal apportionment is straightforwardly illustrated here, simply the disappearance of these bars as the constituencies converges at the average. *The longer the bars, the worse the malapportionment.* The goal of redelineation is to reduce the bars' lengths so that they converge on the average.

Unlike in Graph A, the constituencies in Graph B are deliberately not sorted by their deviation, but by their constituency code. This allows comparison over time to see the movement of voters. If voters are moved from one over-sized constituency to another[4], charts

---

[4] A good example is the relocation of the state constituency of Batu Lintang from the parliamentary constituency of Stampin to its neighbour Bandar Kuching in the 2015 redelineation exercise for Sarawak.

akin to Graph A will look similar as the two constituencies merely change their position. By ordering the constituencies based on their constituency code, the bars (representing constituencies) are on the same position in different charts. This allows us to see clearly if the EC has even touched the constituencies at all in the redelineation exercise. In the Appendices, we provide for every state the state of malapportionment in the latest redelineation exercise or proposal (2015 for Sarawak, 2016 for others), during the last pre-redelineation general or state election (2011 for Sarawak state constituencies, 2013 for others) and after the last redelineation exercise (2005 for Sarawak, 2003 for others).

Such comparison over time is straight forward where no new seats are added, which is the case for the Federal Parliament and all the state assemblies in the Peninsula.[5] For Sabah and Sarawak where 13 and 11 new seats were added respectively, new and old constituencies are matched by constituency names. The empty slots in the charts for Sabah and Sarawak in the last election and last redelineation exercises thus represent new constituencies that had yet come into existence.

Graph B: Malapportionment of Parliamentary Constituencies in Selangor under the 2016 Redelineation Proposal (First Display) (Measured as Deviation from the State Average)

What does the Federal Constitution say?

Apportionment is different for parliamentary and state constituencies. Because parliamentary constituencies cannot cross state boundaries[6], so the number of parliamentary constituencies allocated to a state must be first determined. Hence, where parliamentary constituencies are

---

[5] Constituency codes may change for adjacent constituencies from one redelineation exercise to another but this is very rare.
[6] As per Section 2(a), Part 1, Thirteenth Schedule of the Federal Constitution.

concerned, malapportionment may have two sources: inter-state and intra-state. In contrast, malapportionment of state constituencies is purely intra-state.

Inter-state Malapportionment

Up until 1962, both inter-state and intra-state apportionments were governed by the same constitutional provision, namely Article 116(3)-(5) which stipulated that

"(3) Constituencies shall be allocated to the several States on such manner that the electoral quota of each state is nearly equal to the electoral quota of the Federation as it can be without causing undue disparity between the population quota of the state and the population quota of the Federation.

(4) Each state shall be divided into constituencies in such manner that each constituency contains a number of electors nearly equal to the electoral quota of the State as may be after making due allowance for the distribution of the different communities and for differences in density of population and the means of communication, but the allowance to made shall not increase or reduce the number of electors in any constituency to a number differing from the electoral quota by more than fifteen per cent.

(5) In this Article,
(a) "electoral quota" means the number obtained by dividing the number of electors in the Federation or a State by the total number of constituencies or, as the case may be, the number of constituencies in that state;
(b) "population quota" means the number obtained by dividing the population of the Federation or of a State by the total number of constituencies or, as the case may be, the number of constituencies in that state"."

The mathematical formulas could ensure impartiality but unfortunately they were repealed and replaced with the 13th Schedule which governs intra-state apportionment. It was silent on how parliamentary seats should be reallocated across the states in the future when the initial allocation in 1959 became obsolete. The formation of Malaysia in 1963 opened the door for inter-state Malapportionment to over-represent Sabah and Sarawak and under-represent Singapore. By fixing the number of seats allocated for Malaya, Singapore, Sabah and Sarawak in Article 46 which governs the size of Parliament, a matter that is meant to be *electoral* has since turned *legislative*.

Such fixation of seats across states is normally used for the Senate for federations where over-representation of small states or states with special conditions is a norm. The room for inter-state malapportionment was expanded with the 1973 Constitutional Amendment which fixed allocation of parliamentary states to all states, not just between Malaya, Sabah and Sarawak. There is no rule to inform or constrain the Parliament's decision on seat allocation, completely ignoring the conflict of interests on the part of the sitting parliamentarians. Since then, the Parliament has been arbitrarily increasing the total number of its seats and arbitrarily allocating the seats amongst the states, which has only worsened inter-state apportionment.[7]

---

[7] The practice seems to have stopped now with the redelineation exercises for Sarawak and now the Peninsula and Sabah without increase of new seats.

The seat increase and allocation in 2003 was one glaring example. Sixteen seats were added but they were not given proportionally given to the most under-represented states like Selangor. Already over-represented states like Perlis and Pahang were even given extra seats.

For comparison, Perlis was allocated three parliamentary seats with only 109,570 voters, Pahang 14 seats with only 554,321 voters, Johor 26 seats with only 1,223,532 voters, while Selangor only 22 seats with 1,368,693 voters. The result was excessive inter-state malapportionment, with then an average of 62,213 voters per constituency in Selangor, 47,059 voters in Johor, 39,594 voters in Pahang and 36,583 voters in Perlis. With population growth after 13 years but no adjustment in inter-state allocation, today Selangor is suffering severe under-representation of 95,063 voters per parliamentary constituency while the numbers for Perlis, Pahang and Johor are respectively 45,699, 52,659 and 63,428. (See Table 2 below)

Correcting inter-state malapportionment can only be done by the Parliament, not the EC. This must not be done with increase of seats, which does not only bloat our Parliament and burden tax payers with salaries, allowances and pension for the additional parliamentarians, but can be easily abused to aggravate inter-state malapportionment as in 2003. Instead, such correction should be done by reallocating seats from over-represented states to under-represented states while keeping the size of the Parliament.

Intra-state Malapportionment

Intra-state malapportionment is now governed by Section 2(c), Part 1, Thirteenth Schedule of Federal Constitution which stipulates that

"the number of electors within each constituency in a State ought to be approximately equal except that, having regard to the greater difficulty of reaching electors in the country districts and the other disadvantages facing rural constituencies, a measure of weightage for area ought to be given to such constituencies."

This was the outcome of the 1973 Constitutional Amendment which altered the 1962 version:

"the number of electors within each constituency ought to be approximately equal throughout the unit of review except that, having regard to the greater difficulty of reaching electors in the country districts and the other disadvantages facing rural constituencies, a measure of weightage for area ought to be given to such constituencies, to the extent that in some cases a rural constituency may contain as little as one half of the electors of any urban constituency;"

The 1973 amendment removed the extreme limit of "measure of weightage for area" which was operationalised as "*to the extent that in some cases a rural constituency may contain as little as one half of the electors of any urban constituency."* Mathematically, that means a plus or minus 33.33% deviation from the average, which is already smaller than the original plus minus 15% band in the 1957 version.

The EC had in the past misinterpreted Section 2(c) to come out its own unconstitutional guide of malapportionment as shown in Table 1, which was not even followed by it in the case of excessively over-sized rural constituencies like Baling in Kedah in both the 2003 exercise and the current proposal.

Table 1: The EC's Unconstitutional Malapportionment Guidelines by Electorate Size and Geographical Area in 2003 and 2005

Class	2003 (The Peninsula and Labuan)		2003 (Sabah)		2005 (Sarawak)	
	Parliamentary Constituencies	State Constituencies	Parliamentary Constituencies	State Constituencies	Parliamentary Constituencies	State Constituencies
Metropolitan	70,000-90,000 voters	30,000-49,000 Voters	40,000-50,000 voters	18,000-25,000 Voters	60,000-69,000 voters	25,000-35,000 Voters
	8-26 km^2		8-60 km^2		11-26 km^2	
Urban	50,000-69,000 voters	25,000-29,000 voters	30,000-39,000 voters	15,000-18,000 Voters	50,000-59,000 voters	20,000-25,000 Voters
	27-49 km^2		61-500 km^2		27-49 km^2	
Semi-urban	40,000-49,000 voters	15,000-24,000 Voters	25,000-29,000 voters	10,000-14,000 Voters	40,000-49,000 voters	15,000-20,000 Voters
	50-99 km^2		501-1000 km^2		50-90 km^2	
Semi-rural	30,000-39,000 voters	10,000-14,000 Voters	20,000-24,000 voters	8,000-10,000 Voters	30,000-35,000 voters	10,000-15,000 Voters
	100-250 km^2		1001-1500 km^2		100-250 km^2	
Rural	20,000-29,000 voters	7,000-9,000 voters	<=20,000 Voters	<=8,000 Voters	20,000-29,000 voters	7,000-10,000 Voters
	>250 km^2		>1500 km^2		>250 km^2	

Sources: Redelineation reports by Election Commission (2003, 2005)

Section 2(c) clearly means only two things: first, equal apportionment within the same state as the rule; and, second, allowance for over-representation of, not all rural constituencies, but those rural constituencies with vast geographical area. The phrase "approximately equal" and the word "area" in "a measure of weightage for area" must not be forgotten.

This means the EC has a constitutional duty to minimize malapportionment so that the constituencies within the same state are "approximately equal". While there is no more a quantifiable limit, the EC cannot stretch the phrase "approximately equal" beyond common sense to mean "150,439 is approximately equal to 37,126" or "4.05 is approximately equal to 1" as in the case of Damansara and Sabak Bernam. To help ascertain the reasonable bounds of deviation, the 1962 standard is still useful. A band of plus minus 33.33% should be the normal limit for malapportionment, which is used in our analysis.

While justified cases approaching or even slightly exceeding the 33.33% band may be permissible, the goal of redelineation should nevertheless be achieving equal apportionment. This is particularly important for states or territories with small geographical areas and even development, like the Federal Territory of Kuala Lumpur. The disparity between Bandar Tun Razak (79,245 voters) and Titiwangsa (50,926 voters), or 1.56:1 in ratio, is not acceptable even though it does not exceed the 33.33% band.

How big should a constituency be?

We cannot put a fixed figure on how big a constituency can be. Instead, the right size is the average, which changes over time and differs across states, as it is determined by the number of seats and the number of voters. As the total size of voters grows, constituencies are bound to have more voters. We should not increase the size of our Parliament and State Assemblies just to keep the size of constituency electorate or mitigate its growth. When electorate doubles, laws do not double, the days the Parliament/Assembly in session also does not double. While constituency work may increase with the growth of population, resolving them should be the job of local authorities and various government agencies. We must not mistake

constituency work as the ultimate reason what federal and state lawmakers are for. Seat increase in Sabah and Sarawak should not be seen as the best practice.

The right size is therefore one that is "approximately equal" to the average. Table 2 and 3 show the average size of parliamentary and state constituencies in the 13 states and the Federal Territory of Kuala Lumpur, as well as the numbers of constituencies that fit or exceed the 33.33% band as per the current proposal. As explained above, the huge deviation of state averages such as Selangor's 95,063 and Perlis's 45,609 from the national average (excluding Putrajaya and Labuan) of 61,200 is caused by the Parliament with its unfair seat allocation in 2003. However, only 37 out of 220 parliamentary constituencies and 104 out of 600 redelineation falling within the reasonable band of plus minus 33.33% deviation from the state averages is the failure of the EC in carrying out its constitutional mandate as per the Thirteenth Schedule.

Table 2: The Average Size and Malapportionment of Parliamentary Constituencies by State as per the 2015-2016 Redelineation Exercise/Proposals

State	Average for Parliamentary Constituencies	Average +33%	Average - 33%	N, Constituencies within +-33% bands	N, Constituencies above "average +33"	N, Constituencies below "average - 33"	N, total constituencies
Perlis	45,699	60,932	30,466	3	0	0	3
Kedah	69,630	92,839	46,420	11	2	2	15
Kelantan	67,185	89,580	44,790	11	1	2	14
Terengganu	83,693	111,591	55,796	8	0	0	8
Penang	66,750	89,000	44,500	13	0	0	13
Perak	58,647	78,196	39,098	14	5	5	24
Pahang	52,859	70,478	35,239	10	1	3	14
Selangor	94,469	125,958	62,979	13	5	4	22
Kuala Lumpur	71,673	95,564	47,782	11	0	0	11
Negeri Sembilan	69,642	92,856	46,428	5	2	1	8
Melaka	76,108	101,477	50,738	4	1	1	6
Johor	63,428	84,571	42,285	13	6	7	26
Sabah	39,829	53,106	26,553	19	3	3	25
Sarawak	35,779[a]	47,705	23,853	17	7	7	31
Malaysia excluding Putrajaya and Labuan	61,200[b]	81,601	40,800	152	33	35	220

Note:
a. The electorate of Sarawak is based on the 2015 redelineation exercise, which would have slightly increased by now and is hence an under-estimation which affects the calculation of national average, but the discrepancy is small.b. The national average is more accurate by excluding the outliers of Putrajaya and Labuan, which as state-level units must have at least one parliamentary seat no matter how few voters reside there,

Table 3: The Average Size and Malapportionment of State Constituencies by State as per the 2015-2016 Redelineation Exercise/Proposals

State	Average for State Constituencies	Average +33%	Average -33%	N, Constituencies within +-33% bands,	N, Constituencies above "average +33"	N, Constituencies below "average -33"	N, total constiuencies
Perlis	9,140	12,187	6,093	15	0	0	15
Kedah	29,012	38,683	19,342	32	2	2	36
Kelantan	20,902	27,869	13,935	38	3	4	45
Terengganu	20,923	27,898	13,949	28	3	1	32
Penang	21,694	28,925	14,463	33	5	2	40
Perak	23,856	31,809	15,904	42	7	10	59
Pahang	17,620	23,493	11,746	31	5	6	42
Selangor	37,113	49,484	24,742	36	7	13	56
Negeri Sembilan	15,476	20,635	10,317	26	4	6	36
Melaka	16,309	21,745	10,873	18	5	5	28
Johor	29,449	39,265	19,633	31	14	11	56
Sabah	13,640	18,187	9,093	58	7	8	73
Sarawak	13,526	18,035	9,017	50	13	19	82
Malaysia	21,107	28,143	14,071	438	75	87	600

For any excessive over-representation, the only constitutional ground is "area", the size of its land mass. Such information is provided in the EC's report for the Parliament when it concludes the redelineation. If the EC recognises the necessity of such information for the Parliament to consider in approving its proposal, there is no reason for the state government, local authorities and the affected voters – parties entitled to raise objection – to be denied at this stage such information to evaluate the merit of any over-represented constituency.

How many constituencies were excluded from redelineation?

The grave Malapportionment of constituencies is caused in part actively by the EC's deliberate violation of the constitutional provision of Section 2(c) in carrying out the redelineatione exercise and in part passively by the EC's abdication of its constitutional duty by simply excluding many constituencies from the exercise.

For the 2016 proposal, the EC revealed in its notice of redelineation that as many as 62 parliamentary constituencies out of 189 constituencies in the 12 states (except Sarawak) and the Federal Territory of Kuala Lumpur. The number of state constituencies excluded was not revealed in the notice. (Table 4)

Table 4: Parliamentary Constituencies Excluded from the 2016 Redelineation Proposals (First Display)

Count	State	Parliamentary Constituency Code	Constituency
1	Perlis	P001	Padang Besar
2	Perlis	P002	Kangar
3	Perlis	P003	Arau
4	Kedah	P005	Jerlun
5	Kedah	P006	Kubang Pasu
6	Kedah	P007	Padang Terap
7	Kedah	P011	Pendang
8	Kedah	P012	Jerai
9	Kedah	P013	Sik
10	Kedah	P016	Baling
11	Kedah	P018	Kulim Bandar Baharu
12	Kelantan	P029	Machang
13	Kelantan	P031	Kuala Krai
14	Pulau Pinang	P042	Tasek Gelugor
15	Pulau Pinang	P043	Bagan
16	Pulau Pinang	P044	Permatang Pauh
17	Pulau Pinang	P045	Bukit Mertajam
18	Pulau Pinang	P046	Batu Kawan
19	Pulau Pinang	P047	Nibong Tebal
20	Pulau Pinang	P048	Bukit Bendera
21	Pulau Pinang	P049	Tanjong
22	Pulau Pinang	P050	Jelutong
23	Pulau Pinang	P051	Bukit Gelugor
24	Pulau Pinang	P052	Bayan Baru
25	Perak	P054	Gerik
26	Perak	P055	Lenggong
27	Perak	P058	Bagan Serai
28	Perak	P061	Padang Rengas
29	Perak	P062	Sungai Siput
30	Perak	P067	Kuala Kangsar
31	Perak	P069	Parit
32	Pahang	P078	Cameron Highlands
33	Pahang	P079	Lipis
34	Pahang	P082	Indera Mahkota

35	Pahang	P083	Kuantan
36	Pahang	P084	Paya Besar
37	Pahang	P085	Pekan
38	Pahang	P090	Bera
39	Pahang	P091	Rompin
40	Selangor	P092	Sabak Bernam
41	Selangor	P093	Sungai Besar
42	Selangor	P094	Hulu Selangor
43	Selangor	P113	Sepang
45	Negeri Sembilan	P126	Jelebu
46	Negeri Sembilan	P129	Kuala Pilah
47	Melaka	P134	Masjid Tanah
48	Johor	P140	Segamat
49	Johor	P141	Sekijang
50	Johor	P142	Labis
51	Johor	P157	Pengerang
52	Johor	P158	Tebrau
53	Sabah	P176	Kimanis
54	Sabah	P177	Beaufort
55	Sabah	P178	Sipitang
56	Sabah	P179	Ranau
57	Sabah	P180	Keningau
58	Sabah	P181	Tenom
59	Sabah	P185	Batu Sapi
60	Sabah	P186	Sandakan
61	Sabah	P189	Semporna
62	Sabah	P190	Tawau

Exclusion from redelineation was not revealed in the 2015 Sarawak Redelineation Exercise. Nevertheless, by tracing movement of polling districts, assuming no redivisioning of polling districts had unconstitutionally crossed constituency boundaries, we found that as many as 38 out of the original 71 state constituencies were excluded. This translated into 12 parliamentary constituencies being excluded. (Table 5)

Table 5: Parliamentary and State Constituencies Excluded from the 2015 Sarawak Redelineation Exercise

No	State Constituency	Parliamentary Constituency
1	N1 Opar	P192 Mas Gading
2	N2 Tasik Biru	
3	N3 Tanjung Dato	P193 Santubong
4	N4 Pantai Damai	

5	N5 Demak Laut	
6	N9 Padungan	Part of P195 Bandar Kuching
7	N10 Pending	
8	N28 Lingga	Part of P201 Batang Lupar
9	N29 Beting Maro	
10	N30 Balai Ringin	P202 Sri Aman
11	N31 Bukit Begunan	
12	N32 Simanggang	
13	N33 Engkilili	P203 Lubok Antu
14	N34 Batang Ai	
15	N36 Layar	Part of P204 Betong
16	N41 Kuala Rejang	P206 Tanjong Manis
17	N42 Semop	
18	N43 Daro	P207 Igan
19	N44 Jemoreng	
20	N45 Repok	P208 Sarikei
21	N46 Meradong	
22	N47 Pakan	P209 Julau
23	N48 Meluan	
24	N49 Ngemah	P210 Kanowit
25	N50 Machan	
26	N51 Bukit Assek	P211 Lanang
27	N52 Dudong	
28	N53 Bawang Assan	Part of P212 Sibu
29	N57 Tamin	Part of P214 Selangau
30	N62 Katibas	Part of P215 Kapit
31	N67 Jepak	Part of P217 Bintulu
32	N71 Bekenu	P218 Sibuti
33	N72 Lambir	
34	N74 Pujut	Part of P219 Miri
35	N76 Marudi	Part of P220 Baram
36	N79 Bukit Kota	P221 Limbang
37	N80 Batu Danau	
38	N82 Bukit Sari	Part of P222 Lawas

The high percentage of exclusion, more than ½ amongst Sarawak state constituencies and more than 1/3 for parliamentary constituencies in the Peninsula and Sabah is a blatant abdication by the EC of its constitutional duty to minimize malapportionment. Exclusion can only be justified when there is hardly malapportionment, as in the case of parliamentary constituencies in Perlis. There can be no excuse at all for the exclusion of obviously malapportioned constituencies like the neighbouring state constituencies of Paya Terubong (41,707 voters) and Air Putih (12,752) in Penang.

Looking at the pattern of where redelineation took place in Sarawak and where it is proposed in the Peninsula and Sabah, it seems that boundaries are changed often only where new constituencies are carved out or where constituencies are marginal that the balance may be tipped with malapportionment or gerrymandering. That no news seats are added for the

Parliament and all Peninsular state assemblies then makes redelineation seemingly unnecessary.

As the next redelineation exercise can only be pursued at least eight years after the completion of this exercise, unchecked malapportionment now will likely get aggravated.

While the Thirteenth Schedule of the Federal Constitution provides avenue of objection and inquiry only for those constituencies affected by the redelineation, the EC's betrayal of the Federal Constitution should be challenged in court.

What can be done?

To conclude, redelineation exercises are meant to correct malapportionment and unrepresentative boundaries. The EC cannot make malapportionment worsened as in the case of Selangor, or leave existent malapportionment untouched by excluding the constituencies like Paya Terubong and Air Putih from redelineation.

The aggravation of malapportionment should be challenged administratively in the objection-inquiry process and if necessary legally by the constitutionally-stipulated stakeholders: state governments, local authorities and affected voters.

We hope this analysis would be useful in the efforts to correct malapportionment.

PERLIS

Malapportionment of Parliamentary Constituencies in Perlis

Under the 2016 Redelineation Proposal (First Display)

Excessively under-represented or over-represented parliamentary constituencies:

None.

Ratio of Largest Constituency to Smallest Constituency: 1.20: 1

Constituencies excluded from redelineation:

According to the redelineation notice published by the EC, all the three parliamentary constituencies are excluded from redelineation: P001 Padang Besar, P002 Kangar, and P003 Arau.

Map 1B however shows that the parliamentary constituencies do experience some minor boundary changes.

Changes in Malapportionment:

The state of malapportionment under the current proposal is similar compared to that in 2003 and 2013.

Conclusion:

The districting of the parliamentary constituencies in Perlis is acceptable.

Please see Appendix 1:

Map 1A: Draft Plan for Parliamentary and State Constituencies – Perlis

Graph 1A: Malapportionment of Parliamentary Constituencies in Perlis under the 2016 Redelineation Proposal (First Display)

Graph 1B: Malapporitionment of Parliamentary Constituencies in Perlis after the 2003 Redelineation Exercise (Measured as Deviation from the State Average)

Graph 1C: Malapporitionment of Parliamentary Constituencies in Perlis during the 2013 General Election (Measured as Deviation from the State Average)

Graph 1D: Malapporitionment of Parliamentary Constituencies in Perlis under the 2016 Redelineation Proposal (First Display) (Measured as Deviation from the State Average)

Malapportionment of State Constituencies in Perlis

<u>Under the 2016 Redelineation Proposal (First Display)</u>

Excessively under-represented or over-represented state constituencies:

None. The largest deviation in the proposal (Mata Ayer) was about 30% smaller than the state average.

Ratio of Largest Constituency to Smallest Constituency: 1.68: 1

Constituencies excluded from redelineation:

None. (from Map 1B)

Changes in Malapportionment:

The state of malapportionment under the current proposal is slightly worse than that in the 2003 exercise, and shows little improvement from that in 2013. Even though none of the state constituencies excessively deviates from the state average, the deviations of constituencies like N06 Bintong (by 19.10%) and N04 Mata Ayer (by -29.11%) should have been lessened in the redelineation process.

Conclusion:

State constituencies in Perlis is mildly malapportioned. The proposed redelineation can and should aim for more equal apportionment. Left unmitigated, the moderately over-sized and under-sized constituencies may grow to be excessively over-sized and under-sized before the next redelineation, which could be held only eight years later in normal circumstances.

Please see Appendix 1:

Map 1A: Draft Plan for Parliamentary and State Constituencies – Perlis

Map 1B: Identified and Suspected Boundary Changes for State Constituencies in Perlis

Graph 1E: Malapportionment of State Constituencies in Perlis under the 2016 Redelineation Proposal (First Display)

Graph 1F: Malapportionment of State Constituencies in Perlis after the 2003 Redelineation Exercise (Measured as Deviation from the State Average)

Graph 1G: Malapportionment of State Constituencies in Perlis during the 2013 General Election (Measured as Deviation from the State Average)

Graph 1H: Malapportionment of State Constituencies in Perlis under the 2016 Redelineation Proposal (First Display) (Measured as Deviation from the State Average)

KEDAH

Malapportionment of Parliamentary Constituencies in Kedah

Under the 2016 Redelineation Proposal (First Display)

Excessively under-represented parliamentary constituencies:

No.	Constituency	Electorate	As % of Average
1	P015 Sungai Petani	101,829	146.24%
2	P016 Baling	94,809	136.16%

Justification for excessive under-representation:

None. Baling, given its large land mass and electorate, could easily be split into at least two constituencies. Sungai Petani's dense population merits smaller – even if still oversized — electorates,. The voters could be more evenly spread out across constituencies e.g. balanced and absorbed by neighbouring constituencies to observe greater parity among constituencies.

Excessively over-represented parliamentary constituencies:

No.	Constituency	Electorate	As % of Average
1	P004 Langkawi	37,645	54.06%
2	P007 Padang Terap	42,877	61.58%

Ratio of Largest Constituency to Smallest Constituency: 2.70: 1

Justification for excessive over-representation:

Only some. Langkawi's deviation is acceptable largely due to the fact that the Langkawi island is administered distinctly and has a unique interest and tourism value. Padang Terap covers a wide area and its over-representation (61.58%) would have been acceptable had it not been for the fact that its neighbouring constituencies, Pendang (101.53%) and Pokok Sena (113.45%), are both under-represented. The EC should have spread out a portion of either Pokok Sena or/and Pendang into Padang Terap constituency.

Ratio of Largest Constituency to Smallest Constituency: 2.70: 1

Constituencies excluded from redelineation:

None.

Changes in Malapportionment:

In the 2016 redelineation, the EC made malapportionment worse in many constituencies such as Padang Serai, Baling, Sungai Petani, Kuala Kedah, Poko Sena, and Alor Setar. While malapportionment has been mildly reduced in a few seats such as Jerlun and Langkawi, the EC did not perform its task in constituencies where adjustment is most needed and in fact, made malapportionment worse. Despite extensive boundary changes, it is shocking that the state of redelineation under the current proposal remains almost the same as that in 2013 and differs little from that in 2003. The EC misses out the opportunity to reduce under-representation in Sungai Petani and Baling.

Conclusion:

The EC has abdicated its duty in mitigating malapportionment of constituencies.
Please see Appendix 2:

Map 2A: Draft Plan for Parliamentary and State Constituencies – Kedah

Graph 2A: Malapportionment of Parliamentary Constituencies in Kedah under the 2016 Redelineation Proposal (First Display)

Graph 2B: Malapporitionment of Parliamentary Constituencies in Kedah after the 2003 Redelineation Exercise (Measured as Deviation from the State Average)

Graph 2C: Malapporitionment of Parliamentary Constituencies in Kedah during the 2013 General Election (Measured as Deviation from the State Average)

Graph 2D: Malapportionment of Parliamentary Constituencies in Kedah under the 2016 Redelineation Proposal (First Display) (Measured as Deviation from the State Average)

Malapportionment of State Constituencies in Kedah

Under the 2016 Redelineation Proposal (First Display)

Excessively under-represented state constituencies:

No.	Constituency	Electorate	As % of Average
1	N34 Lunas	44,938	154.89%
2	N25 Bukit Selambau	41,654	143.58%

Justification for excessive under-representation:

None. Bukit Selambau in particular has a relatively big land mass and coupled with its big population, there is no reason for it to be under-represented. It merits smaller – even if still oversized —electorates if the voters are more evenly spread out across constituencies e.g. ceded a portion of under-represented Bukit Selambau into neighboring Kuala Ketil, Gurun or Jeneri.

Excessively over-represented state constituencies:

No.	Constituency	Electorate	As % of Average
1	N02 Kuah	18,753	64.64%
2	N01 Ayer Hangat	18,892	65.12%

Justification for excessive under-representation:

Acceptable. They are located in Langkawi.

Ratio of Largest Constituency to Smallest Constituency: 2.40: 1

Constituencies excluded from redelineation:

Only one out of 36 state constituencies is excluded from the redelineation proposal, N36 Bandar Baharu.

Changes in Malapportionment:

The 2016 proposed redelineation does not ameliorate the malapportionment among the state constituencies. At best, it involves transferring of malapportionment. At worst, it is a deliberate gerrymandering from a safe seat to a marginal seat. Despite extensive boundary changes, it is shocking that the state of redelineation under the current proposal remains almost the same as that in 2013. The EC misses out the opportunity to reduce under-representation in Bukit Selambau and Lunas.

Conclusion:

The EC has abdicated its duty in mitigating malapportionment of constituencies.

Please see Appendix 2:

Map 2A: Draft Plan for Parliamentary and State Constituencies – Kedah

Map 2B: Identified and Suspected Boundary Changes for State Constituencies in Kedah

Graph 2E: Malapportionment of State Constituencies in Kedah under the 2016 Redelineation Proposal (First Display)

Graph 2F: Malapportionment of State Constituencies in Kedah after the 2003 Redelineation Exercise (Measured as Deviation from the State Average)
Graph 2G: Malapportionment of State Constituencies in Kedah during the 2013 General Election (Measured as Deviation from the State Average)

Graph 2H: Malapportionment of State Constituencies in Kedah under the 2016 Redelineation Proposal (First Display) (Measured as Deviation from the State Average)

KELANTAN

Malapportionment of Parliamentary Constituencies in Kelantan

Under the 2016 Redelineation Proposal (First Display)

Excessively under-represented parliamentary constituencies:

No.	Constituency	Electorate	As % of Average
1	P019 Tumpat	101,318	150.80%

Justification for excessive under-representation:

None. The oversized electorate in Tumpat could have been ceded to any of its four neigboring constituencies, none of which is as under-representation as Tumpat.

Excessively over-represented parliamentary constituencies:

No.	Constituency	Electorate	As % of Average
1	P032 Gua Musang	41,894	62.36%
2	P030 Jeli	43,233	64.35%

Justification for excessive over-representation:

Acceptable. The massive land mass especially in Gua Musang warrants a representation after taking into account the accessibility to vote.

Ratio of Largest Constituency to Smallest Constituency: 2.42 : 1

Constituencies excluded from redelineation:

According to the redelineation notice published by the EC, two of 14 parliamentary constituencies in Kelantan are excluded from redelineation: P029 Machang and P031 Kuala Krai.

Changes in Malapportionment:

The state of redelineation under the current proposal remains almost the same as that in 2013 and differs little from that in 2003. The EC misses out the opportunity to reduce under-representation in Tumpat.

Conclusion:

The EC has abdicated its constitutional duty to minimize malapportionment in the Redelineation process.

Please see Appendix 3:

Map 3A: Draft Plan for Parliamentary and State Constituencies – Kelantan

Graph 3A: Malapportionment of State Constituencies in Kelantan under the 2016 Redelineation Proposal (First Display)

Graph 3B: Malapporitionment of Parliamentary Constituencies in Kelantan after the 2003 Redelineation Exercise (Measured as Deviation from the State Average)

Graph 3C Malapporitionment of Parliamentary Constituencies in Kelantan during the 2013 General Election (Measured as Deviation from the State Average)

Graph 3D Malapporitionment of Parliamentary Constituencies in Kedah under the 2016 Redelineation Proposal (First Display) (Measured as Deviation from the State Average)

Malapportionment of State Constituencies in Kelantan

Under the 2016 Redelineation Proposal (First Display)

Excessively under-represented state constituencies:

No.	Constituency	Electorate	As % of Average
1	N08 Tanjong Mas	29,335	140.35%
2	N26 Bukit Panau	28,951	138.51%
3	N21 Pantai Irama	28,571	136.69%

Justification for excessive under-representation:

Weak. No systemic explanation why these constituencies are left under-represented.

Excessively over-represented state constituencies:

No.	Constituency	Electorate	As % of Average
1	N42 Dabong	10,881	52.06%
2	N38 Kuala Balah	11,860	56.74%
3	N43 Nenggiri	11,889	56.88%
4	N44 Paloh	13,112	62.73%

Justification for excessive over-representation:

Acceptable. Some of the more rural, deeper, or/and larger (in land mass) areas are granted more representation.

Ratio of Largest Constituency to Smallest Constituency: 2.70: 1

Constituencies excluded from redelineation:

Based on Map 3B, only one out of Kelantan's 45 state constituencies, N44 Paloh is unaffected by the redelineation proposal.

Changes in Malapportionment:

For the most part, the 2016 proposed redelineation does not ameliorate the malapportionment among the state constituencies, as compared to 2013 and 2003. Despite extensive boundary changes, many constituencies remain under-represented. The under-representation of N08 Tanjong Mas was even aggravated.

Conclusion:

The EC has abdicated its constitutional duty to minimize malapportionment in the Redelineation process.

___

Please see Appendix 3:

Map 3A: Draft Plan for Parliamentary and State Constituencies – Kelantan

Map 3B: Identified and Suspected Boundary Changes for State Constituencies in Kelantan

Graph 3E: Malapportionment of State Constituencies in Kelantan under the 2016 Redelineation Proposal (First Display)

Graph 3F: Malapportionment of State Constituencies in Kelantan after the 2003 Redelineation Exercise (Measured as Deviation from the State Average)

Graph 3G: Malapportionment of State Constituencies in Kelantan during the 2013 General Election (Measured as Deviation from the State Average)

Graph 3H: Malapportionment of State Constituencies in Kelantan under the 2016 Redelineation Proposal (First Display) (Measured as Deviation from the State Average)

TERENGGANU

Malapportionment of Parliamentary Constituencies in Terengganu

Under the 2016 Redelineation Proposal (First Display)

Excessively under-represented or over-represented parliamentary constituencies:

None.

Ratio of Largest Constituency to Smallest Constituency: 1.44 : 1

Constituencies excluded from redelineation:

None.

Changes in Malapportionment:

Terengganu's parliamentary constituencies has not deviated by more than 28.13% in the decade. The EC should nevertheless aim to minimize the malapportionment especially in anticipation of population growth.

Conclusion:

The EC has abdicated its constitutional duty to minimize malapportionment in the Redelineation process.

Please see Appendix 4:

Map 4A: Draft Plan for Parliamentary and State Constituencies – Terengganu

Graph 4A: Malapportionment of Parliamentary Constituencies in Terengganu under the 2016 Redelineation Proposal (First Display)

Graph 4B: Malapporitionment of Parliamentary Constituencies in Terengganu after the 2003 Redelineation Exercise (Measured as Deviation from the State Average)

Graph 4C: Malapporitionment of Parliamentary Constituencies in Terengganu during the 2013 General Election (Measured as Deviation from the State Average)

Graph 4D: Malapporitionment of Parliamentary Constituencies in Terengganu under the 2016 Redelineation Proposal (First Display) (Measured as Deviation from the State Average)

Malapportionment of State Constituencies in Terengganu

Under the 2016 Redelineation Proposal (First Display)

Excessively under-represented state constituencies:

No.	Constituency	Electorate	As % of Average
1	N13 Wakaf Mempelam	31,674	151.38%
2	N16 Batu Buruk	30,115	143.93%
3	N30 Cukai	29,788	142.37%

Justification for excessive under-representation:

None. The oversized electorate in Wakaf Mempelam and Batu Buruk could have been ceded to any of its neigboring constituencies, while Cukai's large electorate and land mass definitely do not justify its under-representation.

Excessively over-represented state constituencies:

No.	Constituency	Electorate	As % of Average
1	N25 Bukit Besi	12,557	60.02%

Justification for excessive over-representation:

Acceptable. The large and deeper land mass warrants a representation after taking into account the accessibility to vote.

Ratio of Largest Constituency to Smallest Constituency: 2.52 : 1

Constituencies excluded from redelineation:

Only two out of 32 state constituencies were left untouched, N01 Kuala Besut and N02 Kota Putera

Changes in Malapportionment:

The EC not only did not take the opportunity to redress malapportionment in Wakaf Mempelan and Cukai, but amazingly allowed it to increase by roughly double digits. Despite extensive boundary changes in the state constituencies, malapportionment has remained roughly the same as before. The under-representation in Cukai was even aggravated.

Please see Appendix 4:

Map 4A: Draft Plan for Parliamentary and State Constituencies – Terengganu

Map 4B: Identified and Suspected Boundary Changes for State Constituencies in Terengganu

Graph 4E: Malapportionment of State Constituencies in Terengganu under the 2016 Redelineation Proposal (First Display)

Graph 4F: Malapportionment of State Constituencies in Terengganu after the 2003 Redelineation Exercise (Measured as Deviation from the State Average)

Graph 4G: Malapportionment of State Constituencies in Terengganu during the 2013 General Election (Measured as Deviation from the State Average)

Graph 4H: Malapportionment of State Constituencies in Terengganu under the 2016 Redelineation Proposal (First Display) (Measured as Deviation from the State Average)

PENANG

Malapportionment of Parliamentary Constituencies in Penang

Under the 2016 Redelineation Proposal (First Display)

Excessively under-represented or over-represented parliamentary constituencies:

None.

Ratio of Largest Constituency to Smallest Constituency: 1.68 : 1

Constituencies excluded from redelineation:

According to the EC's schedule on the list of excluded constituencies, 11 out of Penang's 13 parliamentary constituencies are excluded from redelineation: P042 (Tasek Gelugor), P043 (Bagan), P044 (Permatang Pauh), P045 (Bukit Mertajam), P046 (Batu Kawan), P047 (Nibong Tebal), P048 (Bukit Bendera), P049 (Tanjong), P050 (Jelutong), P051 (Bukit Gelugor), and P052 (Bayan Baru).

Changes in Malapportionment:

Penang's parliamentary constituencies has not deviated by more than 28% in the past decade. However, the EC should still redelineate to minimize malapportionment since the next opportunity to do so would be at least eight years later.

Conclusion:

The EC has abdicated its constitutional duty to minimize malapportionment in the Redelineation process.

Please see Appendix 5:

Map 5A: Draft Plan for Parliamentary and State Constituencies – Penang

Graph 5A: Malapportionment of Parliamentary Constituencies in Penang - Deviation from Average in the 2016 Redelineation Proposal

Graph 5B: Malapporitionment of Parliamentary Constituencies in Penang after the 2003 Redelineation Exercise (Measured as Deviation from the State Average)

Graph 5C: Malapporitionment of Parliamentary Constituencies in Penang during the 2013 General Election (Measured as Deviation from the State Average)

Graph 5D: Malapporitionment of Parliamentary Constituencies in Penang under the 2016 Redelineation Proposal (First Display) (Measured as Deviation from the State Average)

Malapportionment of State Constituencies in Penang

Under the 2016 Redelineation Proposal (First Display)

Excessively under-represented state constituencies:

No.	Constituency	Electorate	As % of Average
1	N34 Paya Terubong	41,707	192.25%
2	N14 Machang Bubok	32,189	148.38%
3	N10 Seberang Jaya	31,253	144.06%
4	N37 Batu Maung	31,050	143.13%
5	N35 Batu Uban	29,541	136.17%

Justification for excessive under-representation:

None. They could have had smaller – even if still oversized --electorates, if voters were more evenly spread out across constituencies. Paya Terubong is almost twice as many electorate as the average state constituency.

Excessively over-represented state constituencies:

No.	Constituency	Electorate	As % of Average
1	N23 Air Putih	12,752	58.78%
2	N40 Teluk Bahang	13,295	61.28%

Justification for excessive over-representation:

None. Air Putih (over-represented) should have absorbed more voters from its neighbor, Paya Terubong (excessively under-represented) and Teluk Bahang (over-represented) should have been made to absorb voters from Tanjong Bunga (also over-represented but nowhere as severe as Teluk Bahang)

Ratio of Largest Constituency to Smallest Constituency: 3.27 : 1

Constituencies excluded from redelineation:

Out of 40 state constituencies, only approximately 5 are excluded from redelineation: N01 (Penaga), N06 (Telok Ayer Tawar), N09 (Bagan Dalam), N19 (Jawi) and N21 (Sungai Acheh).

Changes in Malapportionment:

The EC did nothing to change the under-representation problem in Paya Terubung, Machang Bubok, Seberang Jaya, Batu Maung, and Batu Uban. Even more shockingly, the EC made the incomprehensible moves to cut out a part of Air Putih (already over-represented) and further extend Paya Terubung (already the most under-represented constituency in 2013 General Election and 2003 redelineation). Despite extensive boundary changes, the EC fails to do any justice to the severe malapportionment in Penang.

Conclusion

The EC has abdicated its constitutional duty to minimize malapportionment in the Redelineation process.

Please see Appendix 2:

Map 5A: Draft Plan for Parliamentary and State Constituencies – Penang

Map 5B: Identified and Suspected Boundary Changes for State Constituencies in Penang

Graph 5E: Malapportionment of State Constituencies in Penang under the 2016 Redelineation Proposal (First Display)

Graph 5F: Malapportionment of State Constituencies in Penang after the 2003 Redelineation Exercise (Measured as Deviation from the State Average)

Graph 5G: Malapportionment of State Constituencies in Penang during the 2013 General Election (Measured as Deviation from the State Average)

Graph 5H: Malapportionment of State Constituencies in Penang under the 2016 Redelineation Proposal (First Display) (Measured as Deviation from the State Average)

PERAK

Malapportionment of Parliamentary Constituencies in Perak

Under the 2016 Redelineation Proposal (First Display)

Excessively under-represented parliamentary constituencies:

No.	Constituency	Electorate	As % of average
1	P063 Tambun	96,437	163.28%
2	P071 Gopeng	89,389	151.34%
3	P064 Ipoh Timor	89,218	151.05%
4	P060 Taiping	86,432	146.34%
5	P065 Ipoh Barat	82,041	138.90%

Justification for excessive under-representation:

None. They can have smaller electorates, if voters can be more evenly spread out across constituencies.

Excessively over-represented parliamentary constituencies:

No.	Constituency	Electorate	As % of average
1	P055 Lenggong	28,078	47.54%
2	P061 Padang Rengas	28,727	48.64%
3	P067 Kuala Kangsar	33,113	56.06%
4	P069 Parit	33,368	56.49%
5	P054 Gerik	33,832	57.28%

Justification for excessive over-representation:

Only some. Only Gerik and Lenggong which cover vast land mass in northern Perak may qualify for over-representation as provided for by Section 2(c), the Thirteenth Schedule of the Federal Constitution.

Ratio of Largest Constituency to Smallest Constituency: 3.43: 1

Constituencies excluded from redelineation:

According to the redelineation notice published by the EC, 7 out of Perak's 24 parliamentary constituencies are excluded from redelineation: P054 (Gerik), P055 (Lenggong), P058 (Bagan Serai), P061 (Padang Rengas), P062 (Sungai Siput), P067 (Kuala Kangsar), and P069 (Parit).

Changes in Malapportionment:

Malapportionment remains even though some of its victims have changed. It is shocking that the despite making extensive boundary changes, the EC fails to correct obvious malapportionment (which had persisted from 2003 redelineation to 2013 General Election) in at least 10 constituencies. Failing to address malapportionment in this current proposal would only make malapportionment much more severe by the time the next redelineation occurs.

Conclusion:

The EC has abdicated its constitutional duty to minimize malapportionment in the Redelineation process.
Please see Appendix 6:

Map 6A: Draft Plan for Parliamentary and State Constituencies – Perak

Graph 6A: Malapportionment of Parliamentary Constituencies in Perak under the 2016 Redelineation Proposal (First Display)

Graph 6B: Malapportionment of Parliamentary Constituencies in Perak after the 2003 Redelineation Exercise (Measured as Deviation from the State Average)

Graph 6C Malapportionment of Parliamentary Constituencies in Perak during the 2013 General Election (Measured as Deviation from the State Average)

Graph 6D Malapportionment of Parliamentary Constituencies in Perak under the 2016 Redelineation Proposal (First Display) (Measured as Deviation from the State Average)

Malapportionment of State Constituencies in Perak

<u>Under the 2016 Redelineation Proposal (First Display)</u>

Excessively under-represented state constituencies:

	Constituency	Electorate	As % of average
1	N23 Manjoi	50,812	211.49%
2	N24 Hulu Kinta	45,625	189.90%
3	N45 Simpang Pulai	39,269	163.44%
4	N51 Pasir Panjang	35,888	149.37%
5	N28 Bercham	33,908	141.13%
6	N27 Pasir Pinji	33,022	137.44%
7	N37 Pantai Remis	32,388	134.80%

Justification for excessive under-representation:

None. They can have smaller electorates, if voters can be more evenly spread out across constituencies. All these state constituencies are even larger than the two smallest parliamentary constituencies as per the redelineation proposal.

Excessively over-represented state constituencies:

	Constituency	Electorate	As % of average
1	N04 Kota Tampan	11,990	49.90%
2	N15 Trong	12,987	54.05%
3	N19 Chenderoh	13,456	56.01%
4	N01 Pengkalan Hulu	14,363	59.78%
5	N39 Belanja	14,653	60.99%
6	N07 Batu Kurau	15,253	63.49%
7	N05 Selama	15,261	63.52%
8	N20 Lubok Merbau	15,271	63.56%
9	N34 Bukit Chandan	15,693	65.32%
10	N06 Kubu Gajah	15,748	65.55%

Justification for excessive over-representation:

Only some. While some of these state constituencies may qualify for over-representation as provided for by Section 2(c), the Thirteenth Schedule of the Federal Constitution, it is hard to ascertain their merits without land mass information.

Ratio of Largest Constituency to Smallest Constituency: 4.24: 1

Constituencies excluded from redelineation:

Virtually all 59 state constituencies experienced boundary changes.

Changes in Malapportionment:

The pattern of malapportionment looks virtually the same with how it was in 2013.

Conclusion:

The EC has abdicated its constitutional duty to minimize malapportionment in the Redelineation process.

Please see Appendix 6:

Map 6A: Draft Plan for Parliamentary and State Constituencies – Perak

Map 6B: Identified and Suspected Boundary Changes for State Constituencies in Perak

Graph 6E: Malapportionment of State Constituencies in Perak under the 2016 Redelineation Proposal (First Display)

Graph 6F: Malapportionment of State Constituencies in Perak after the 2003 Redelineation Exercise (Measured as Deviation from the State Average)

Graph 6G: Malapportionment of State Constituencies in Perak during the 2013 General Election (Measured as Deviation from the State Average)

Graph 6H: Malapportionment of State Constituencies in Perak under the 2016 Redelineation Proposal (First Display) (Measured as Deviation from the State Average)

PAHANG

Malapportionment of Parliamentary Constituencies in Pahang

Under the 2016 Redelineation Proposal (First Display)

Excessively under-represented parliamentary constituencies:

No.	Constituency	Electorate	As % of Average
1	P085 Pekan	81,647	154.46%

Justification for excessive under-representation:

None. The oversized electorate could be spread out to other constituencies. Having both large electorate and land mass, Pekan should not have been under-represented at all.

Excessively over-represented parliamentary constituencies:

No.	Constituency	Electorate	As % of Average
1	P078 Cameron Highlands	27,892	52.77%
2	P087 Kuala Krau	30,349	57.42%
3	P079 Lipis	32,075	60.68%

Justification for excessive over-representation:

Only some. Not withstanding the fact that Pahang being the largest state in the peninsular, Cameron Highlands, Kuala Krau and Lipis could have absorbed more voters from the neighboring constituencies to even out the electorates.

Ratio of Largest Constituency to Smallest Constituency: 2.93 : 1

Constituencies excluded by redelineation:

According to the redelineation notice published by the EC, 8 out of 14 parliamentary constituencies in Pahang are excluded: P078 Cameron Highland, P079 Lipis, P082 Indera Mahkota, P083 Kuantan, P084 Paya Besar, P085 Pekan, P090 Bera, and P091 Rompin

Changes in Malapportionment:

In the 2016 proposed redelineation, the EC did not attempt to redress the malapportionment in Pahang.

Conclusion:

The EC failed to capitalize on its chances to reduce malapportionment of constituencies.

Please see Appendix 7:

Map 7A: Draft Plan for Parliamentary and State Constituencies – Pahang

Graph 7A: Malapportionment of Parliamentary Constituencies in Pahang under the 2016 Redelineation Proposal (First Display)

Graph 7B: Malapporitionment of Parliamentary Constituencies in Pahang after the 2003 Redelineation Exercise (Measured as Deviation from the State Average)

Graph 7C: Malapporitionment of Parliamentary Constituencies in Pahang during the 2013 General Election (Measured as Deviation from the State Average)

Graph 7D: Malapportionment of Parliamentary Constituencies in Pahang under the 2016 Redelineation Proposal (First Display) (Measured as Deviation from the State Average)

Malapportionment of State Constituencies in Pahang

Under the 2016 Redelineation Proposal (First Display)

Excessively under-represented state constituencies:

No.	Constituency	Electorate	As % of Average
1	N13 Semambu	33,365	189.36%
2	N12 Beserah	33,255	188.74%
3	N21 Peramu Jaya	29,213	165.80%
4	N24 Luit	24,162	137.13%
5	N14 Teruntum	23,889	135.58%

Justification for excessive under-representation:

Weak. No explanation why these constituencies are left under-represented. Even though the land mass is small, the electorates could still be spread out among the constituencies.

Excessively over-represented state constituencies:

No.	Constituency	Electorate	As % of Average
1	N05 Benta	8,175	46.40%
2	N28 Kerdau	9,473	53.76%
3	N27 Jenderak	9,656	54.80%
4	N16 Inderapura	10,949	62.14%
5	N02 Jelai	11,160	63.34%
6	N29 Paya Pulai	11,220	63.68%

Justification for excessive over-representation:

Only some. Some of the more rural, harder to reach, or/and larger in land mass areas are granted more representation.

Ratio of Largest Constituency to Smallest Constituency: 4.08: 1

Constituencies excluded from redelineation;

Out of 42 constituencies, only about approximately four are excluded from redelineation: N01 Tanah Rata, N06 Batu Talam, N20 Pulau Manis and N23 Chini.

Changes in Malapportionment:

The EC does not reduce malapportionment in multiple seats in which there were already obvious signs that they are under-represented or over-represented since 2003 and 2013. Constituencies such as Benta, Inderapura, Beserah, Semambu, and Teruntum are all either

under-represented or over-represented since 2003 and despite making extensive boundary changes, the EC fails to redress the problem again.

Conclusion:

The EC did not mitigate malapportionment of constituencies.

Please see Appendix 7:

Map 7A: Draft Plan for Parliamentary and State Constituencies – Pahang

Map 7B: Identified and Suspected Boundary Changes for State Constituencies in Pahang

Graph 7E: Malapportionment of State Constituencies in Pahang under the 2016 Redelineation Proposal (First Display)

Graph 7F: Malapportionment of State Constituencies in Pahang after the 2003 Redelineation Exercise (Measured as Deviation from the State Average)

Graph 7G: Malapportionment of State Constituencies in Pahang during the 2013 General Election (Measured as Deviation from the State Average)

Graph 7H: Malapportionment of State Constituencies in Pahang under the 2016 Redelineation Proposal (First Display) (Measured as Deviation from the State Average)

SELANGOR

Malapportionment of Parliamentary Constituencies in Selangor

After 2016 Redelineation Proposal (First Display)

Excessively under-represented parliamentary constituencies:

No.	Constituency	Electorate	As % of average
1	P106 Damansara	150,439	159.94%
2	P102 Bangi	146,168	155.40%
3	P110 Klang	141,272	150.20%
4	P105 Petaling Jaya	129,363	137.53%
5	P104 Subang	128,330	136.44%

Justification for excessive under-representation:

None. They can have smaller electorates, if voters can be more evenly spread out across constituencies. In particular, the boundary changes to Damansara, Klang and Bangi (already previously under-represented) are obvious in its malicious intent to under-represent the voters there.

Excessively over-represented parliamentary constituencies:

No.	Constituency	Electorate	As % of average
1	P092 Sabak Bernam	37,126	39.47%
2	P095 Tanjong Karang	42,658	45.35%
3	P093 Sungai Besar	42,833	45.54%
4	P096 Kuala Selangor	60,425	64.24%

Justification for excessive over-representation:

None. Sabak Bernam and Sungai Besar should have been merged into one constituency. These two districts have no more land mass than Hulu Selangor (with approximately similar electorate size) to claim more than one parliamentary seat.

Ratio of Largest Constituency to Smallest Constituency: 4.05: 1

Constituencies excluded by redelineation:

According to the redelineation notice published by the EC, approximately 4 out 22 of parliamentary constituencies in Selangor are excluded: P092 Sabak Bernam, P093 Sungai Besar, P094 Hulu Selangor, and P113 Sepang.

Changes in Malapportionment:

In comparison to 2013, Malapportionment will be worsened with the 2016 redelineation proposal. More constituencies are now under-represented and over-represented. Even the ratio between the largest and smallest constituencies further increases.

Conclusion:

The EC has abdicated its constitutional duty to minimize malapportionment in the Redelineation process.

Please see Appendix 8:

Map 8A: Draft Plan for Parliamentary and State Constituencies – Selangor

Graph 8A: Malapportionment of State Constituencies in Selangor under the 2016 Redelineation Proposal (First Display)

Graph 8B: Malapporitionment of Parliamentary Constituencies in Selangor after the 2003 Redelineation Exercise (Measured as Deviation from the State Average)

Graph 8C: Malapporitionment of Parliamentary Constituencies in Selangor during the 2013 General Election (Measured as Deviation from the State Average)

Graph 8D: Malapporitionment of Parliamentary Constituencies in Selangor under the 2016 Redelineation Proposal (First Display) (Measured as Deviation from the State Average)

Malapportionment of State Constituencies in Selangor

After the 2016 Redelineation Proposal (First Display)

Excessively under-represented state constituencies:

No.	Constituency	Electorate	As % of average
1	N31 Subang Jaya	66,059	178.77%
2	N30 Kinrara	62,271	168.52%
3	N47 Pandamaran	59,917	162.15%
4	N37 Bukit Lanjan	54,902	148.58%
5	N45 Bandar Baru Klang	52,754	142.76%
6	N25 Kajang	52,041	140.83%
7	N27 Balakong	51,594	139.62%

Justification for excessive under-representation:

None. They can have smaller electorates, if voters can be more evenly spread out across constituencies. All these state constituencies are even larger than the two smallest parliamentary constituencies as per the redelineation proposal.

Excessively over-represented state constituencies:

No.	Constituency	Electorate	As % of average
1	N01 Sungai Air Tawar	15,033	40.68%
2	N04 Sekinchan	16,108	43.59%
3	N12 Jeram	16,321	44.17%
4	N06 Kuala Kubu Baharu	16,707	45.21%
5	N13 Kuang	19,797	53.57%
6	N11 Ijok	20,734	56.11%
7	N05 Hulu Bernam	20,920	56.61%
8	N09 Permatang	21,043	56.95%
9	N08 Sungai Burong	21,615	58.49%
10	N54 Tanjong Sepat	22,026	59.61%
11	N02 Sabak	22,093	59.79%
12	N10 Bukit Melawati	23,370	63.24%
13	N56 Sungai Pelek	23,989	64.92%

Justification for excessive over-representation:

None. None of these state constituencies occupies a large landmass to qualify for over-representation as provided for by Section 2(c), the Thirteenth Schedule of the Federal Constitution.

Ratio of Largest Constituency to Smallest Constituency: **4.39: 1**

Constituencies excluded by redelineation:

According to the redelineation notice published by the EC, approximately 7 out 56 of state constituencies in Selangor are excluded: N01 Sungai Air Tawar, N02 Sabak, N03 Sungai Panjang, N04 Sekinchan, N05 Hulu Bernam, N17 Gombak Setia, N18 Hulu Kelang, and N20 Lembah Jaya.

Changes in Malapportionment:

In comparison to 2013, Malapportionment will be worsened with the 2016 redelineation proposal.

Conclusion:

The EC has abdicated its constitutional duty to minimize malapportionment in the Redelineation process.

Please see Appendix 8:

Map 8A: Draft Plan for Parliamentary and State Constituencies – Selangor

Map 8B: Identified and Suspected Boundary Changes for State Constituencies in Selangor

Graph 8E: Malapportionment of State Constituencies in Selangor under the 2016 Redelineation Proposal (First Display)

Graph 8F: Malapportionment of State Constituencies in Selangor after the 2003 Redelineation Exercise (Measured as Deviation from the State Average)

Graph 8G: Malapportionment of State Constituencies in Selangor during the 2013 General Election (Measured as Deviation from the State Average)

Graph 8H: Malapportionment of State Constituencies in Selangor under the 2016 Redelineation Proposal (First Display) (Measured as Deviation from the State Average)

WILAYAH PERSEKUTUAN KUALA LUMPUR

Malapportionment of Parliamentary Constituencies in Wilayah Persekutuan Kuala Lumpur

After per the 2016 Redelineation Proposal (First Display)

Excessively under-represented parliamentary constituencies: None.

Justification for excessive under-representation: Not relevant.

Excessively over-represented parliamentary constituencies: None.

Justification for excessive over-representation: Not relevant.

Ratio of Largest Constituency to Smallest Constituency: 1.56: 1

Constituencies excluded by redelineation:

None.

Changes in Malapportionment:

Parliamentary constituencies in Kuala Lumpur fall within the +- 33.33% band in both the 2003 redelineation exercise and the current proposal. Nevertheless, as per the redelineation proposal, malapportionment will be slightly worsened. Given Kuala Lumpur's fully urbanised landscape, it is not reasonable for Titiwangsa to have only 50,926 voters when the state-wide average is 71,673.

Conclusion:

The EC should minimize malapportionment in Kuala Lumpur by relocating some voters to Titiwangsa.

Please see Appendix 9

Map 9A: Draft Plan for Parliamentary Constituencies –Kuala Lumpur

Map 9B: Identified and Suspected Boundary Changes for Parliamentary Constituencies in Kuala Lumpur

Graph 9A: Malapportionment of Parliamentary Constituencies in Kuala Lumpur under the 2016 Redelineation Proposal (First Display)

Graph 9B: Malapporitionment of Parliamentary Constituencies in Kuala Lumpur after the 2003 Redelineation Exercise (Measured as Deviation from the State Average)

Graph 9C: Malapporitionment of Parliamentary Constituencies in Kuala Lumpur during the 2013 General Election (Measured as Deviation from the State Average)

Graph 9D: Malapporitionment of Parliamentary Constituencies in Kuala Lumpur under the 2016 Redelineation Proposal (First Display) (Measured as Deviation from the State

NEGERI SEMBILAN

Malapportionment of Parliamentary Constituencies in Negeri Sembilan

Under the 2016 Redelineation Proposal (First Display)

Excessively under-represented parliamentary constituencies:

No.	Constituency	Electorate	As % of Average
1	P128 Seremban	99,752	143.24%
2	P130 Rasah	93,299	133.97%

Justification for excessive under-representation:

None. The oversized electorates in Rasah and Seremban should have been spread out to the neighbouring Rembau, Port Dickson or Kuala Pilah (which is over-represented). They could have had smaller – even if still oversized --electorates, if voters were more evenly spread out across constituencies.

Excessively over-represented parliamentary constituencies:

No.	Constituency	Electorate	As % of Average
1	P126 Jelebu	45,719	65.65%

Justification for excessive over-representation:

Acceptable. The large land mass warrants a larger representation after taking into account the accessibility to vote.

Ratio of Largest Constituency to Smallest Constituency: **2.18 : 1**

Constituencies excluded by redelineation:

According to the redelineation notice published by the EC, approximately 2 out 8 of parliamentary constituencies in Negeri Sembilan are excluded: P126 Jelebu, and P129 Kuala Pilah.

Changes in Malapportionment:

Despite making boundary changes, the EC fixes neither the over-representation nor the under-representation issues in the parliamentary constituencies of Negeri Sembilan. Malapportionment remains the same as before.

Conclusion:

The EC has abdicated its duty in mitigating malapportionment of constituencies.

Please see Appendix 10:

Map 10A: Draft Plan for Parliamentary and State Constituencies – Negeri Sembilan

Graph 10A: Malapportionment of Parliamentary Constituencies in Negeri Sembilan under the 2016 Redelineation Proposal (First Display)

Graph 10B: Malapporitionment of Parliamentary Constituencies in Negeri Sembilan after the 2003 Redelineation Exercise (Measured as Deviation from the State Average)

Graph 10C: Malapporitionment of Parliamentary Constituencies in Negeri Sembilan during the 2013 General Election (Measured as Deviation from the State Average)

Graph 10D: Malapporitionment of Parliamentary Constituencies in Negeri Sembilan under the 2016 Redelineation Proposal (First Display) (Measured as Deviation from the State Average)

Malapportionment of State Constituencies in Negeri Sembilan

Under the 2016 Redelineation Proposal (First Display)

Excessively under-represented state constituencies:

No.	Constituency	Electorate	As % of Average
1	N25 Paroi	31,081	200.83%
2	N21 Bukit Kepayang	22,793	147.28%
3	N36 Bukit Rokan	22,540	145.64%
4	N10 Nilai	20,833	134.61%

Justification for excessive under-representation:

None. It is unacceptable for a constituency to have twice as many electorate as its counterparts within the same state. They could have had smaller – even if still oversized --electorates, if voters were more evenly spread out across constituencies.

Excessively over-represented state constituencies:

No.	Constituency	Electorate	As % of Average
1	N17 Senaling	7,766	50.18%
2	N16 Seri Menanti	7,894	51.01%
3	N15 Juasseh	9,354	60.44%
4	N04 Klawang	9,392	60.69%
5	N19 Johol	9,487	61.30%
6	N02 Pertang	9,694	62.64%

Justification for excessive over-representation:

Only some. Some of the more rural, deeper, or/and larger (in land mass) areas are granted more representation.

Ratio of Largest Constituency to Smallest Constituency: 4.00: 1

Constituencies excluded by redelineation:

According to the redelineation notice published by the EC, approximately 5 out 36 of state constituencies in Negeri Sembilan are excluded: N26 Rembau, N28 Kota, N36 Bukit Rokan (Repah), N34 Gemas, and N35 Gemencheh.

Changes in Malapportionment:

Despite extensive boundary changes, malapportionment remains the same as 2013 and 2003. The EC fails to correct even the most obvious case of under-representation in Paroi, whose electorate is twice as large as the state average.

Conclusion:

The EC has abdicated its duty in mitigating malapportionment of constituencies.

Please see Appendix 10:

Map 10A: Draft Plan for Parliamentary and State Constituencies – Negeri Sembilan

Map 10B: Identified and Suspected Boundary Changes for State Constituencies in Negeri Sembilan

Graph 10E: Malapportionment of State Constituencies in Negeri Sembilan under the 2016 Redelineation Proposal (First Display)

Graph 10F: Malapportionment of State Constituencies in Negeri Sembilan after the 2003 Redelineation Exercise (Measured as Deviation from the State Average)

Graph 10G: Malapportionment of State Constituencies in Negeri Sembilan during the 2013 General Election (Measured as Deviation from the State Average)

Graph 10H: Malapportionment of State Constituencies in Negeri Sembilan under the 2016 Redelineation Proposal (First Display) (Measured as Deviation from the State Average)

MALACCA

Malapportionment of Parliamentary Constituencies in Malacca

Under the 2016 Redelineation Proposal (First Display)

Excessively under-represented parliamentary constituencies:

No.	Constituency	Electorate	As % of Average
1	P138 Kota Melaka	105,067	138.05%

Justification for excessive under-representation:

None. It can have lesser voters with more even apportionment.

Excessively over-represented parliamentary constituencies:

No.	Constituency	Electorate	As % of Average
1	P134 Masjid Tanah	47,972	63.03%

Justification for excessive over-representation:

None. If Alor Gajah and Jasin with larger landmass can have more voters, there is no ground for Masjid Tanah's over-representation.

Ratio of Largest Constituency to Smallest Constituency: 2.19 : 1

Constituencies excluded by redelineation:

According to the redelineation notice published by the EC, approximately 1 out 6 of parliamentary constituencies in Malacca are excluded: P134 Masjid Tanah.

Changes in Malapportionment:

The EC does not aim to minimize malapportionment but merely transfer voters from one over-sized constituency, Bukit Katil, to another, Kota Melaka. Despite extensive boundary changes, malapportionment remains the same as 2013 and 2003.

Conclusion:

The EC has abdicated its constitutional duty to minimize malapportionment in the Redelineation process.

Please see Appendix 11:

Map 11A: Draft Plan for Parliamentary and State Constituencies – Malacca

Graph 11A: Malapportionment of Parliamentary Constituencies in Malacca under the 2016 Redelineation Proposal (First Display)

Graph 11B: Malapporitionment of Parliamentary Constituencies in Malacca after the 2003 Redelineation Exercise (Measured as Deviation from the State Average)

Graph 11C: Malapporitionment of Parliamentary Constituencies in Malacca during the 2013 General Election (Measured as Deviation from the State Average)

Graph 11D: Malapporitionment of Parliamentary Constituencies in Malacca under the 2016 Redelineation Proposal (First Display) (Measured as Deviation from the State Average)

Malapportionment of State Constituencies in Malacca

<u>Under the 2016 Redelineation Proposal</u> (First Display)

Excessively under-represented state constituencies:

No.	Constituency	Electorate	As % of Average
1	N16 Bukit Baru	25,773	158.03%
2	N15 Ayer Keroh	25,491	156.30%
3	N19 Bachang	23,637	144.93%
4	N18 Alai	23,193	142.21%
5	N17 Ayer Molek	21,708	133.10%

Justification for excessive under-representation:

None. They could have had smaller – even if still oversized --electorates, if voters were more evenly spread out across constituencies.

Excessively over-represented state constituencies:

No.	Constituency	Electorate	As % of Average
1	N05 Taboh Naning	8,198	50.27%
2	N02 Tanjung Bidara	9,291	56.97%
3	N04 Lendu	9,493	58.21%
4	N03 Ayer Limau	10,469	64.19%
5	N01 Kuala Linggi	10,521	64.51%

Justification for excessive over-representation:

Only some. While some of the more rural and larger (in land mass) areas may qualify for over-representation as provided for by Section 2(c), the Thirteenth Schedule of the Federal Constitution, the EC has failed to provide for the landmass information for their merits to be assessed.

Ratio of Largest Constituency to Smallest Constituency: 3.14: 1

Constituencies excluded by redelineation:

According to the redelineation notice published by the EC, approximately 4 out 28 of state constituencies in Malacca are excluded: N06 Rembia, N09 Durian Tunggal, N08 Machap Jaya, and N10 Asahan.

Changes in Malapportionment:

Despite extensive boundary changes, malapportionment remains the same as 2013 and 2003.

Conclusion:

The EC has abdicated its constitutional duty to minimize malapportionment in the Redelineation process.

Please see Appendix 11:

Map 11A: Draft Plan for Parliamentary and State Constituencies – Malacca

Map 11B: Identified and Suspected Boundary Changes for State Constituencies in Malacca

Graph 11E: Malapportionment of State Constituencies in Malacca under the 2016 Redelineation Proposal (First Display)

Graph 11F: Malapportionment of State Constituencies in Malacca after the 2003 Redelineation Exercise (Measured as Deviation from the State Average)

Graph 11G: Malapportionment of State Constituencies in Malacca during the 2013 General Election (Measured as Deviation from the State Average)

Graph 11H: Malapportionment of State Constituencies in Malacca under the 2016 Redelineation Proposal (First Display) (Measured as Deviation from the State Average)

JOHOR

Malapportionment of Parliamentary Constituencies in Johor

After 2016 Redelineation Proposal (First Display)

Excessively under-represented parliamentary constituencies:

No.	Constituency	Electorate	As % of average
1	P162 Gelang Patah	112,081	176.71%
2	P159 Pasir Gudang	108,156	170.52%
3	P158 Tebrau	99,592	157.02%
4	P160 Johor Bahru	98,351	155.06%
5	P161 Pulai	95,980	151.32%
6	P163 Kulai	95,822	151.07%
5	P150 Batu Pahat	91,328	143.99%
6	P152 Kluang	88,212	139.07%

Justification for excessive under-representation:

None. They can have smaller electorates, if voters can be more evenly spread out across constituencies. At least one parliamentary seat should be taken from less populous areas and given to Greater Johor Bahru.

Excessively over-represented parliamentary constituencies:

No.	Constituency	Electorate	As % of average
1	P143 Pagoh	36,387	57.37%
2	P142 Labis	37,569	59.23%
3	P157 Pengerang	38,338	60.44%
4	P155 Tenggara	40,670	64.12%
5	P151 Simpang Renggam	41,052	64.72%
6	P153 Sembrong	41,629	65.63%
7	P141 Sekijang	41,896	66.05%

Justification for excessive over-representation:

None. None of these parliamentary constituencies occupies a large landmass to qualify for over-representation as provided for by Section 2(c), the Thirteenth Schedule of the Federal Constitution. Tellingly, Mersing which has approximately twice the landmass than Pagoh has more voters than any of these.

Ratio of Largest Constituency to Smallest Constituency: 3.08: 1

Constituencies excluded by redelineation:

According to the redelineation notice published by the EC, approximately 12 out 26 of parliamentary constituencies in Johor are excluded: P140 Segamat, P141 Sekijang, P142 Labis, P157 Pengerang, P158 Tebrau, P159 Pasir Gudang, P160 Johor Bahru, P161 Pulai, P162 Gelang Patah, P163 Kulai, P164 Pontian, and P165 Tanjung Piai.

Changes in Malapportionment:

Malapportionment is not mitigated by the redelineation proposal even though some victims of malapportionment have changed. Despite extensive boundary changes, malapportionment remains the same as 2013 and 2003.

Conclusion:

The EC has abdicated its constitutional duty to minimize malapportionment in the redelineation process.

Please see Appendix 12:

Map 12A: Draft Plan for Parliamentary and State Constituencies – Johor

Graph 12A: Malapportionment of Parliamentary Constituencies in Johor under the 2016 Redelineation Proposal (First Display)

Graph 12B: Malapportionment of Parliamentary Constituencies in Johor after the 2003 Redelineation Exercise (Measured as Deviation from the State Average)

Graph 12C: Malapportionment of Parliamentary Constituencies in Johor during the 2013 General Election (Measured as Deviation from the State Average)

Graph 12D: Malapportionment of Parliamentary Constituencies in Johor under the 2016 Redelineation Proposal (First Display) (Measured as Deviation from the State Average)

Malapportionment of State Constituencies in Johor

After the 2016 Redelineation Proposal (First Display)

Excessively under-represented state constituencies:

No	Constituency	electorate size	% of average
1	N48 Skudai	69,132	234.75%
2	N42 Johor Jaya	59,041	200.49%
3	N46 Perling	55,810	189.51%
4	N44 Larkin	53,325	181.08%
5	N40 Tiram	50,639	171.95%
6	N43 Permas	49,115	166.78%
7	N41 Puteri Wangsa	48,953	166.23%
8	N23 Penggaram	45,749	155.35%
9	N45 Stulang	45,026	152.89%
10	N28 Mengkibol	44,506	151.13%
11	N52 Senai	44,023	149.49%
12	N29 Mahkota	43,706	148.41%
13	N49 Iskandar Puteri	42,949	145.84%
14	N47 Kempas	40,170	136.41%

Justification for excessive under-representation:

None. They can have smaller electorates, if votes can be more evenly spread out across constituencies. More state seats should be taken from less populous areas and given to greater Johor Bahru. That a quarter of Johor's state constituencies are under-represented speaks volume of the obscene malapportionment. Even the smallest constituency size of this under-represented group (N47 Kempas) is bigger than three parliamentary constituencies (P143 Pagoh, P142 Labis and P157 Pengerang).

Excessively over-represented state constituencies:

No	Constituency	electorate size	% of average
1	N07 Bukit Kepong	15,795	53.64%
2	N14 Bukit Naning	16,848	57.21%
3	N35 Pasir Raja	17,350	58.92%
4	N32 Endau	17,882	60.72%
5	N05 Tenang	18,073	61.37%
6	N39 Tanjung Surat	18,217	61.86%
7	N01 Buloh Kasap	19,072	64.76%
8	N27 Layang-Layang	19,263	65.41%
9	N36 Sedili	19,392	65.85%
10	N06 Bekok	19,496	66.20%
11	N25 Rengit	19,508	66.24%

Justification for excessive over-representation:

None. That almost one-fifth (19.64%) of Johor's state constituencies have an electorate which is over represented is a telling symptom of malapportionment.

The failure of the EC to provide land mass data of the constituencies suggests a malicious intent to obstruct the public from accurately assessing the merit or the lack thereof, for the over-representation of these constituencies.

Ratio of Largest Constituency to Smallest Constituency: 4.38: 1

Constituencies excluded by redelineation:

(None)

Changes in Malapportionment:

Malapportionment has actually worsened with more excessively under-sized constituencies. The fact that 25 out of 56 state constituencies are either abnormally under-represented or over represented is a telltale sign of severe malapportionment in Johor. Despite extensive boundary changes, malapportionment has worsened from 2003/2013 to 2016.

Conclusion:

The EC has abdicated its constitutional duty to minimse malapportionment in the redelineation process.

---

*Please see Appendix 12:

Map 12A: Draft Plan for Parliamentary and State Constituencies – Johor

Map 12B: Identified and Suspected Boundary Changes for State Constituencies in Johor

Graph 12E: Malapportionment of State Constituencies in Johor under the 2016 Redelineation Proposal (First Display)

Graph 12F: Malapportionment of State Constituencies in Johor after the 2003 Redelineation Exercise (Measured as Deviation from the State Average)

Graph 12G: Malapportionment of State Constituencies in Johor during the 2013 General Election (Measured as Deviation from the State Average)

Graph 12H: Malapportionment of State Constituencies in Johor under the 2016 Redelineation Proposal (First Display) (Measured as Deviation from the State Average)

SABAH

Malapportionment of Parliamentary Constituencies in Sabah

Under the 2016 Redelineation Proposal (First Display)

Excessively under-represented parliamentary constituencies:

No.	Constituency	Electorate	As % of average
1	P172 Kota Kinabalu	53,451	134.27%
2	P190 Tawau	55,126	138.47%
3	P171 Sepanggar	55,294	138.89%

Justification for excessive under-representation:

None. They can have smaller electorates, if voters can be more evenly spread out across constituencies.

Excessively over-represented parliamentary constituencies:

No.	Constituency	Electorate	As % of average
1	P183 Beluran	24,916	62.59%
2	P181 Tenom	25,309	63.57%
3	P187 Kinabatangan	25,348	63.67%

Justification for excessive over-representation:

Some. Given its vast land mass, Kinabatangan and Beluran are certainly qualified for over-representation as provided for by Section 2(c), the Thirteenth Schedule of the Federal Constitution.

Ratio of Largest Constituency to Smallest Constituency: 2.15: 1

Constituencies excluded by redelineation:

According to the redelineation notice published by the EC, approximately 10 out 25 of parliamentary constituencies in Sabah are excluded: P176 Kimanis, P177 Beaufort, P178 Sipitang, P179 Ranau, P180 Keningau, P181 Tenom, P185 Batu Sapi, P186 Sandakan, P189 Semporna, and 190 Tawau.

Changes in Malapportionment:

There is hardly any improvement on malapportionment, even though the extent of malapportionment is not as bad as some other states. Despite extensive boundary changes, malapportionment remains the same as 2013 and 2003.

Conclusion:

The EC has abdicated its constitutional duty to minimize malapportionment in the Redelineation process.

Please see Appendix 13:

Map 13A: Draft Plan for Parliamentary and State Constituencies – Sabah

Graph 13A: Malapportionment of Parliamentary Constituencies in Sabah under the 2016 Redelineation Proposal (First Display)

Graph 13B: Malapporitionment of Parliamentary Constituencies in Sabah after the 2003 Redelineation Exercise (Measured as Deviation from the State Average)

Graph 13C: Malapporitionment of Parliamentary Constituencies in Sabah during the 2013 General Election (Measured as Deviation from the State Average)

Graph 13D: Malapporitionment of Parliamentary Constituencies in Sabah under the 2016 Redelineation Proposal (First Display) (Measured as Deviation from the State Average)

Malapportionment of State Constituencies in Sabah

Under the 2016 Redelineation Proposal (First Display)

Excessively under-represented state constituencies:

No.	Constituency	Electorate	As % of average
1	N69 Sri Tanjong	25,104	184.14%
2	N21 Luyang	23,992	175.98%
3	N25 Kapayan	23,773	174.38%
4	N55 Elopura	23,327	171.11%
5	N18 Inanam	22,888	167.89%
6	N04 Tanjong Kapor	22,489	164.96%
7	N52 Sungai Sibuga	18,951	139.01%

Justification for excessive under-representation:

None. They can have smaller – even if still over-sized -- electorates, if voters can be more evenly spread out across constituencies. Note that the largest state constituency, Sri Tanjong, is actually larger than the smallest parliamentary constituency, Beluran, as per the redelineation proposal.

Excessively over-represented state constituencies:

No.	Constituency	Electorate	As % of average
1	N01 Banggi	5,485	40.23%
2	N47 Telupid	6,990	51.27%
3	N44 Tulid	7,564	55.48%
4	N49 Labuk	8,206	60.19%
5	N57 Kuamut	8,217	60.27%
6	N59 Sukau	8,379	61.46%
7	N73 Sebatik	8,421	61.77%
8	N58 Lamag	8,752	64.20%

Justification for excessive over-representation:

Some. While these constituencies do cover vast land masses, it is important to note to that some other constituencies with vast land masses also have more voters. The public's ability to accurately assess the merit for the over-representation of these constituencies is hampered by the EC's failure to provide land mass information.

Ratio of Largest Constituency to Smallest Constituency: 4.58: 1

Constituencies excluded by redelineation:
(None)

Changes in Malapportionment:

The EC has failed to use the increase of 11 state constituencies to minimize malapportionment. Despite extensive boundary changes, malapportionment has worsened from 2013 to 2016.

Conclusion:

The EC has abdicated its constitutional duty to minimize malapportionment in the Redelineation process.

Please see Appendix 13:

Map 13A: Draft Plan for Parliamentary and State Constituencies – Sabah

Map 13B: Identified and Suspected Boundary Changes for State Constituencies in Sabah

Graph 13E: Malapportionment of State Constituencies in Sabah under the 2016 Redelineation Proposal (First Display)

Graph 13F: Malapportionment of State Constituencies in Sabah after the 2003 Redelineation Exercise (Measured as Deviation from the State Average)

Graph 13G: Malapportionment of State Constituencies in Sabah during the 2013 General Election (Measured as Deviation from the State Average)

Graph 13H: Malapportionment of State Constituencies in Sabah under the 2016 Redelineation Proposal (First Display) (Measured as Deviation from the State Average)

SARAWAK

Malapportionment of Parliamentary Constituencies in Sarawak

<u>After the 2015 Redelineation Exercise</u>

Excessively under-represented parliamentary constituencies:

No	Constituency	Electorate	as % of average
1	P195 Bandar Kuching	81,992	229.16%
2	P219 Miri	74,132	207.19%
3	P212 Sibu	66,375	185.51%
4	P196 Stampin	58,111	162.42%
5	P217 Bintulu	57,887	161.79%
6	P211 Lanang	57,477	160.64%
7	P194 Petra Jaya	51,987	145.30%

Justification for excessive under-representation:

None. They could have had smaller – even if still oversized - electorates, if voters were more evenly spread out across constituencies.

Excessively over-represented parliamentary constituencies:

No.	Constituency	Electorate	as % of average
1	P207 Igan	18,082	50.54%
2	P222 Lawas	18,138	50.69%
3	P206 Tanjong Manis	19,627	54.86%
4	P203 Lubok Antu	19,819	55.39%
5	P210 Kanowit	19,862	55.51%
6	P200 Batang Sadong	20,977	58.63%
7	P209 Julau	22,932	64.09%

Justification for excessive under-representation:

Weak. These were not the constituencies with the largest land mass. Constituencies with much larger land mass had more voters than these super-small constituencies. Hulu Rajang (34,080 km^2, about the size of Pahang) and Baram (22,075 km^2, about the size of Perak) had respectively 24,293 and 31,476 voters despite their extensive spread.

The case for over-representation was particularly weak for the coastal ones. Igan (2,206 km^2, 18,082 voters) and Tanjong Manis (2,024 km^2, 19,627 voters) could have been merged as one parliamentary constituency of 37,709 voters, or less by losing some parts to its neighbours. Similarly, Batang Sadong (1,031 km^2, 20,977 voters) should have absorbed more voters from its neighbours or be broken up and absorbed by them.

Ratio of Largest Constituency to Smallest Constituency: 4.53: 1

Constituencies excluded by redelineation:
(None)

Changes in Malapportionment:

In the 2005 redelineation exercise, the EC created several excessively over-sized parliamentary constituencies and several excessively under-sized parliamentary constituencies (including Igan, Tanjong Manis dan Batang Sadong). The largest constituency Stampin had an electorate as large as 205.81% of the state average whereas the smallest one Lawas had one as small as 54.46% of the state average.

By 2011, malapportionment had worsened with the electorate of Stampin soaring to 242.32% of the state average while Igan had one equivalent to only 50.82% of the state average.

The 2015 redelineation practically did not change much of the malapportionment, except moving the state constituency of Batu Lintang from Stampin to Bandar Kuching. Bandar Kuching (229.16% of the state average) emerged as the largest while Igan remained the smallest (50.54% of the state average).

Despite extensive boundary changes, malapportionment has worsened from 2005/2011 to 2015.

Conclusion:

The EC has abdicated its duty in mitigating malapportionment of constituencies.

Please see Appendix 14:

Map 14: Draft Plan for Parliamentary and State Constituencies – Sarawak

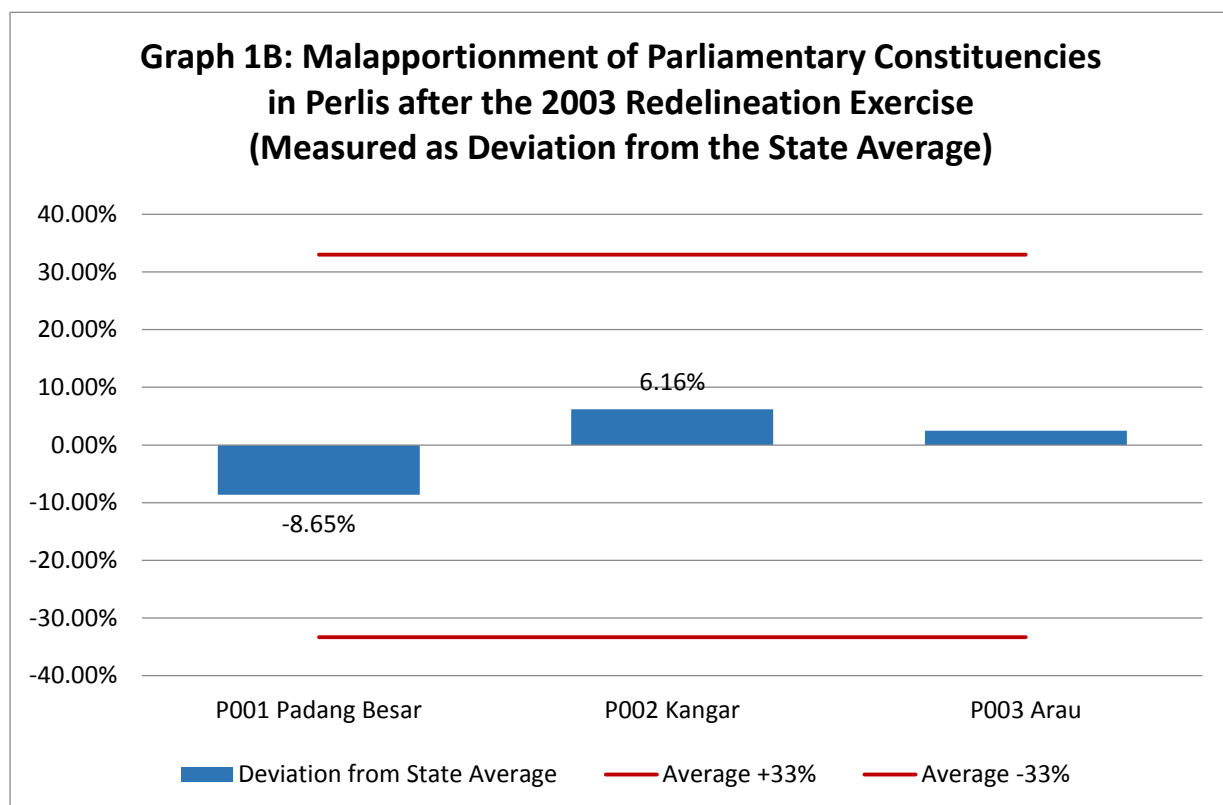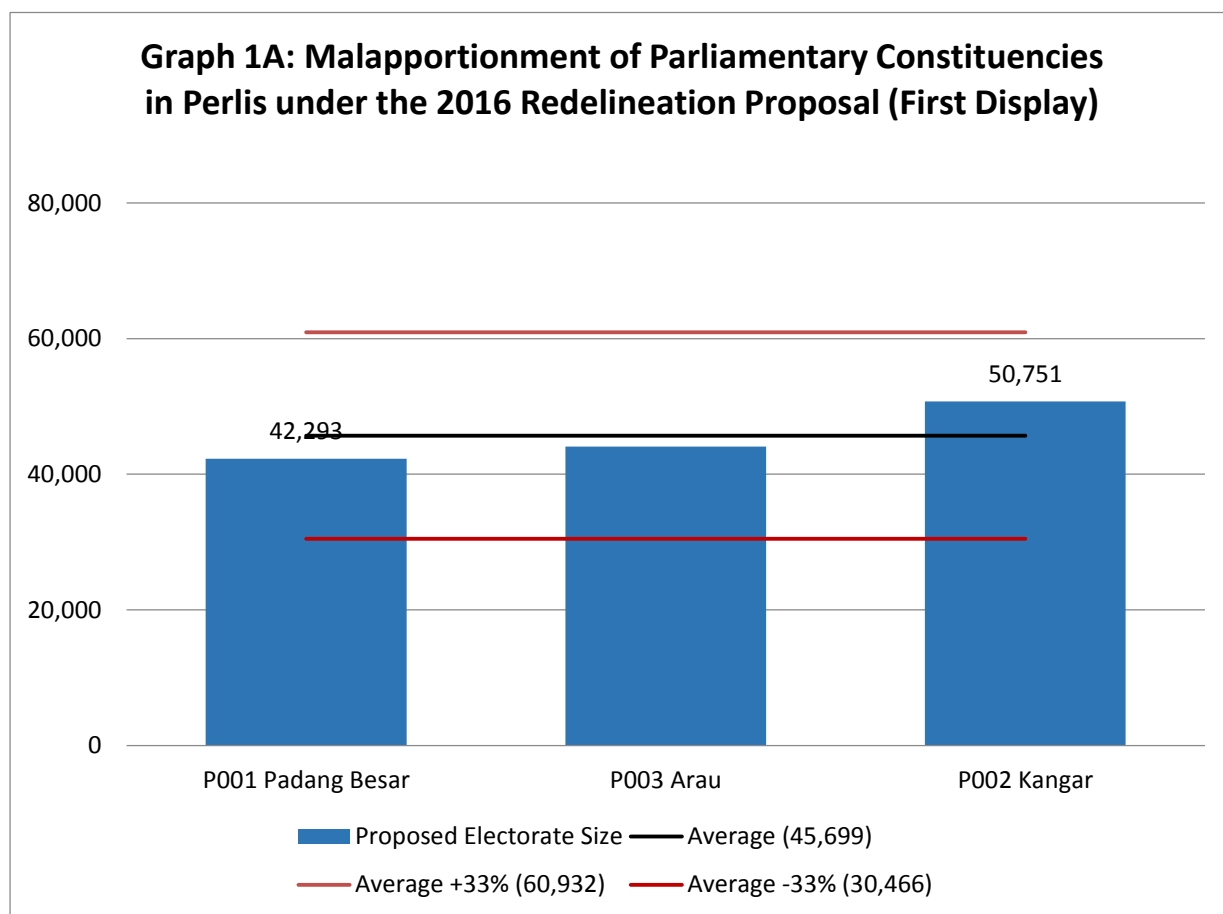Graph 14A: Malapportionment of Parliamentary Constituencies in Sarawak after the 2015 Redelineation Exercise

Graph 14B: Malapporitionment of Parliamentary Constituencies in Sarawak after the 2005 Redelineation Exercise (measured as deviations from state average)
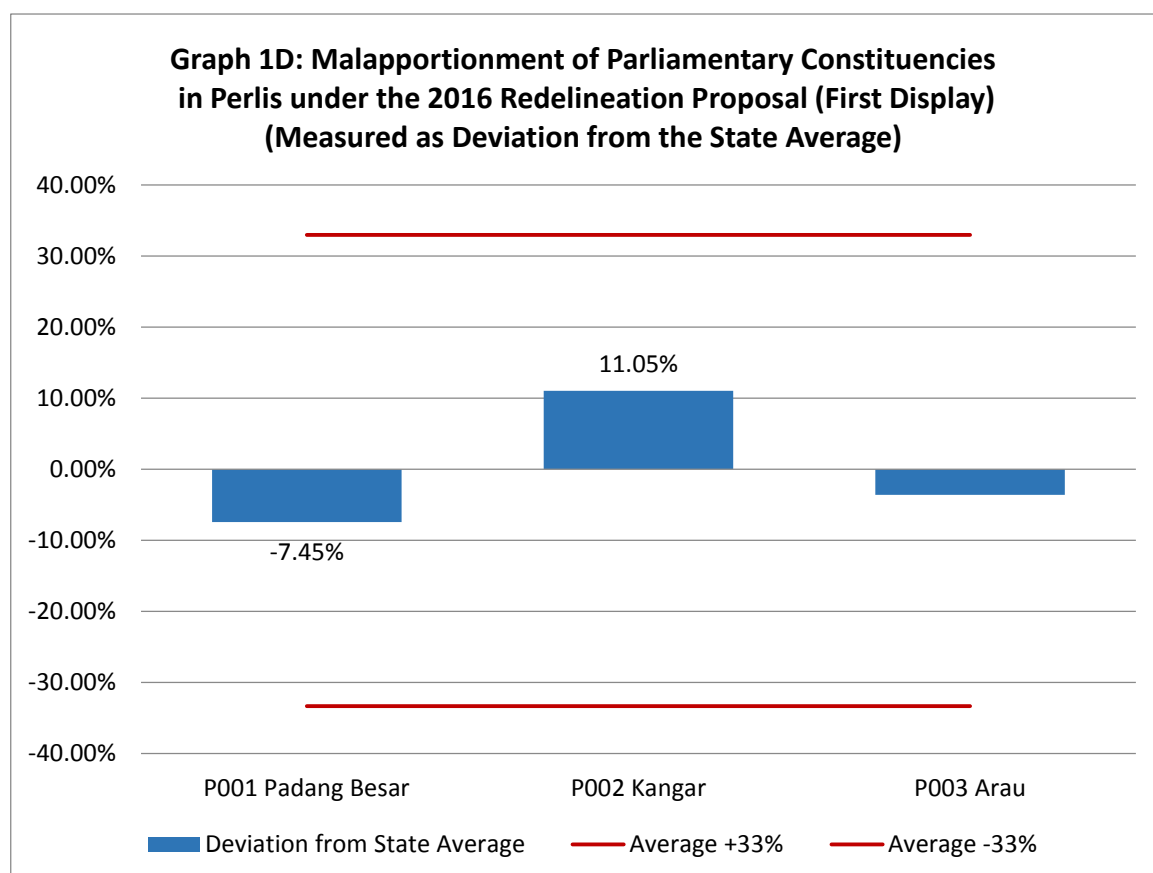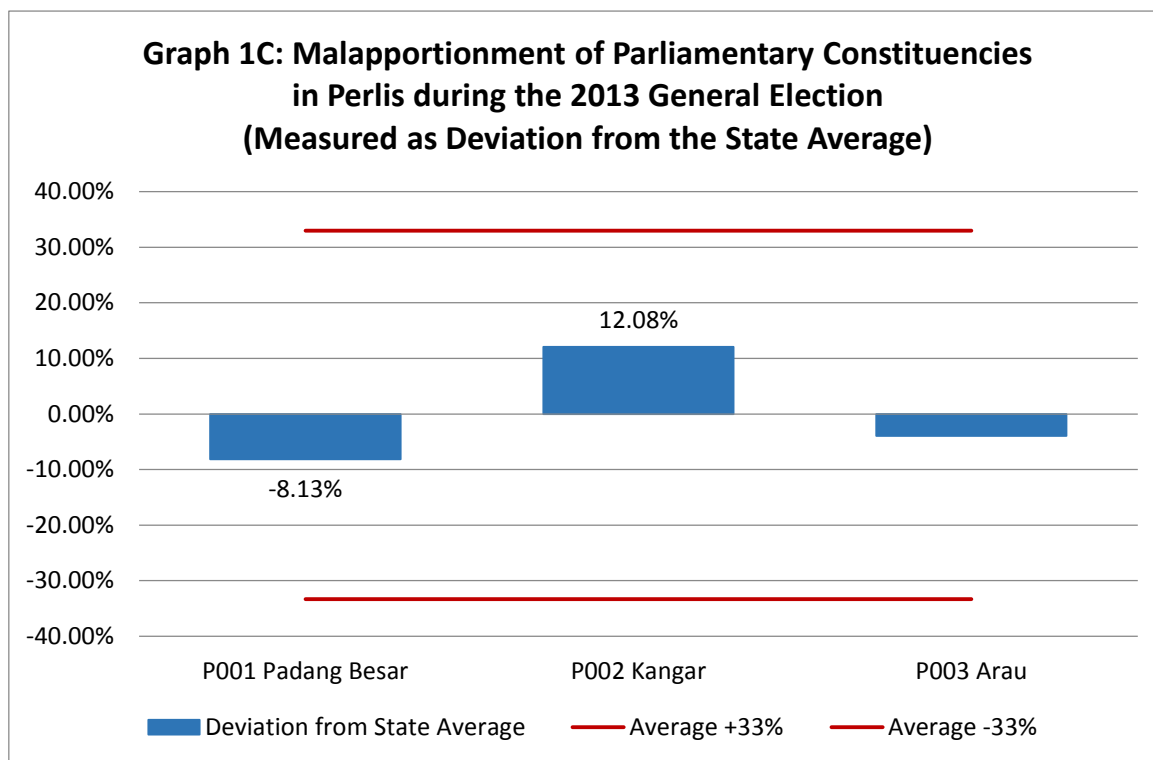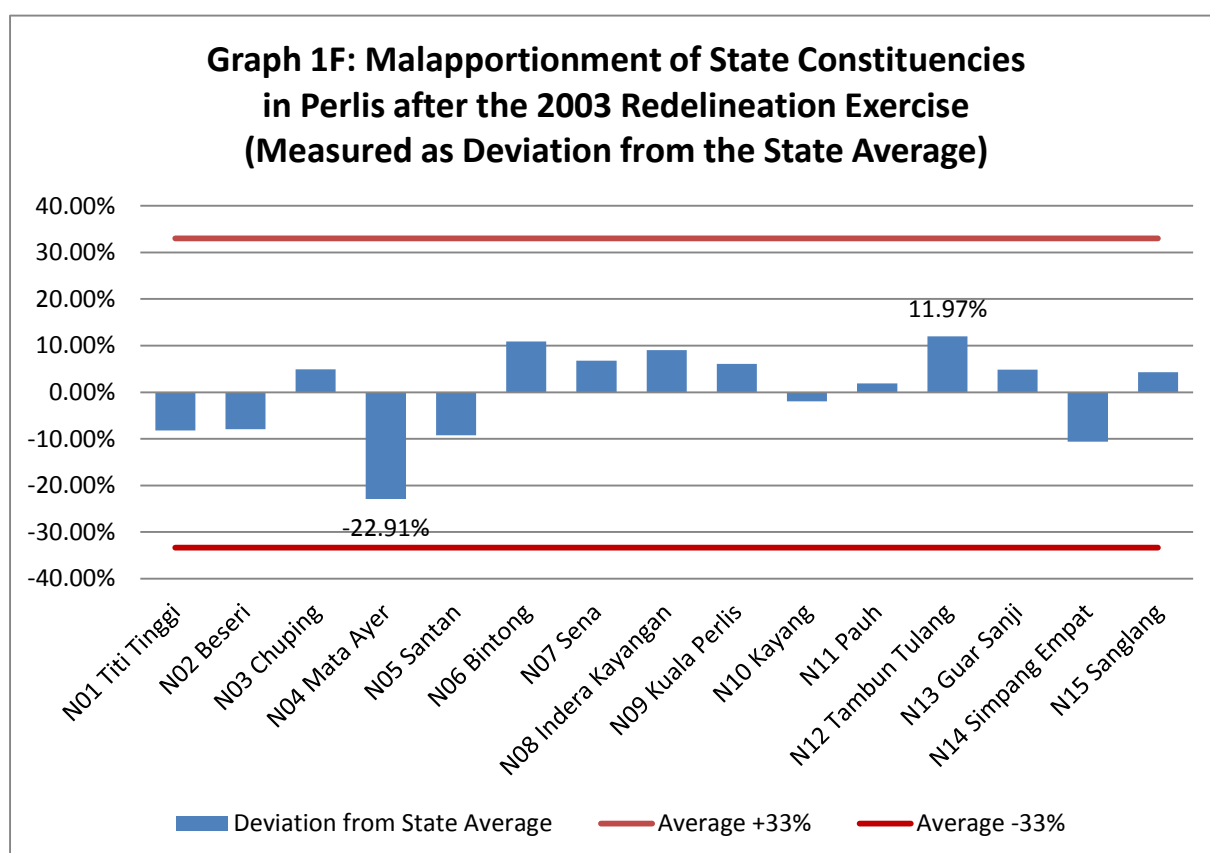
Graph 14C: Malapporitionment of Parliamentary Constituencies in Sarawak during the 2013 General Election (measured as deviations from the state average)
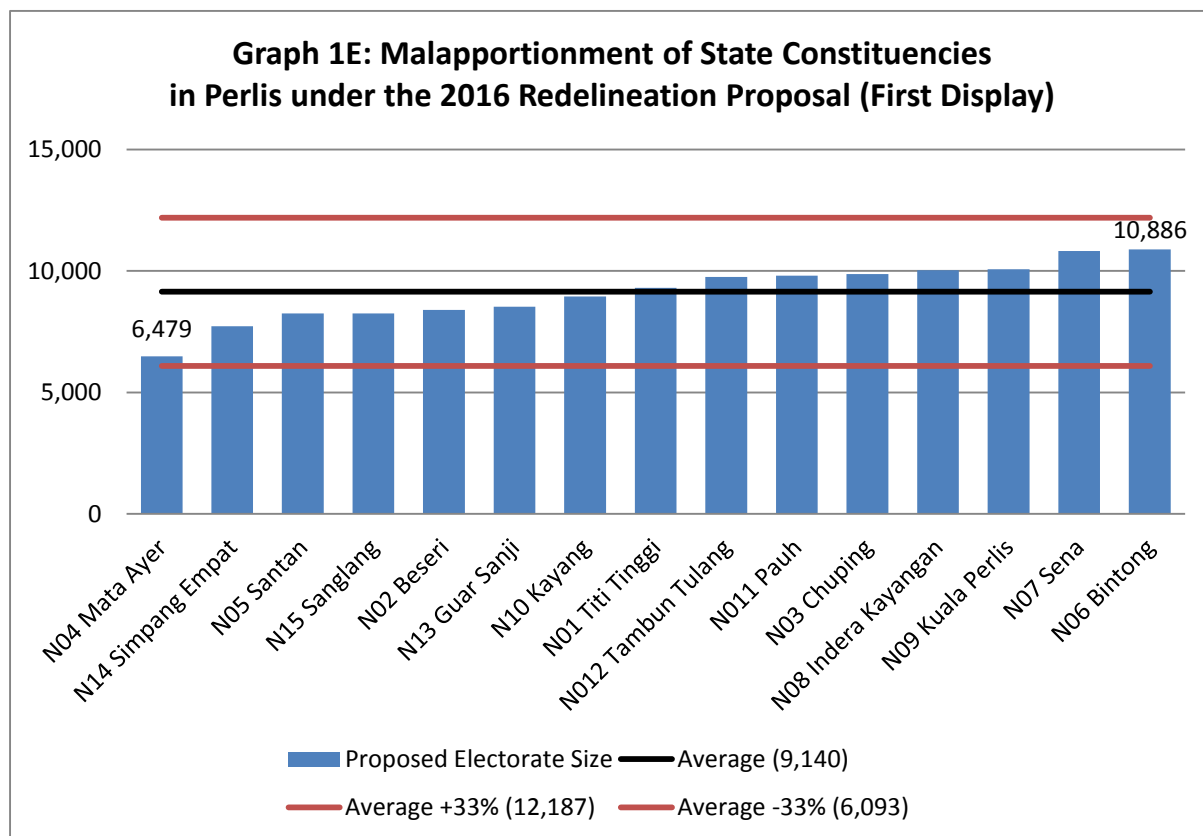
Graph 14D: Malapporitionment of Parliamentary Constituencies
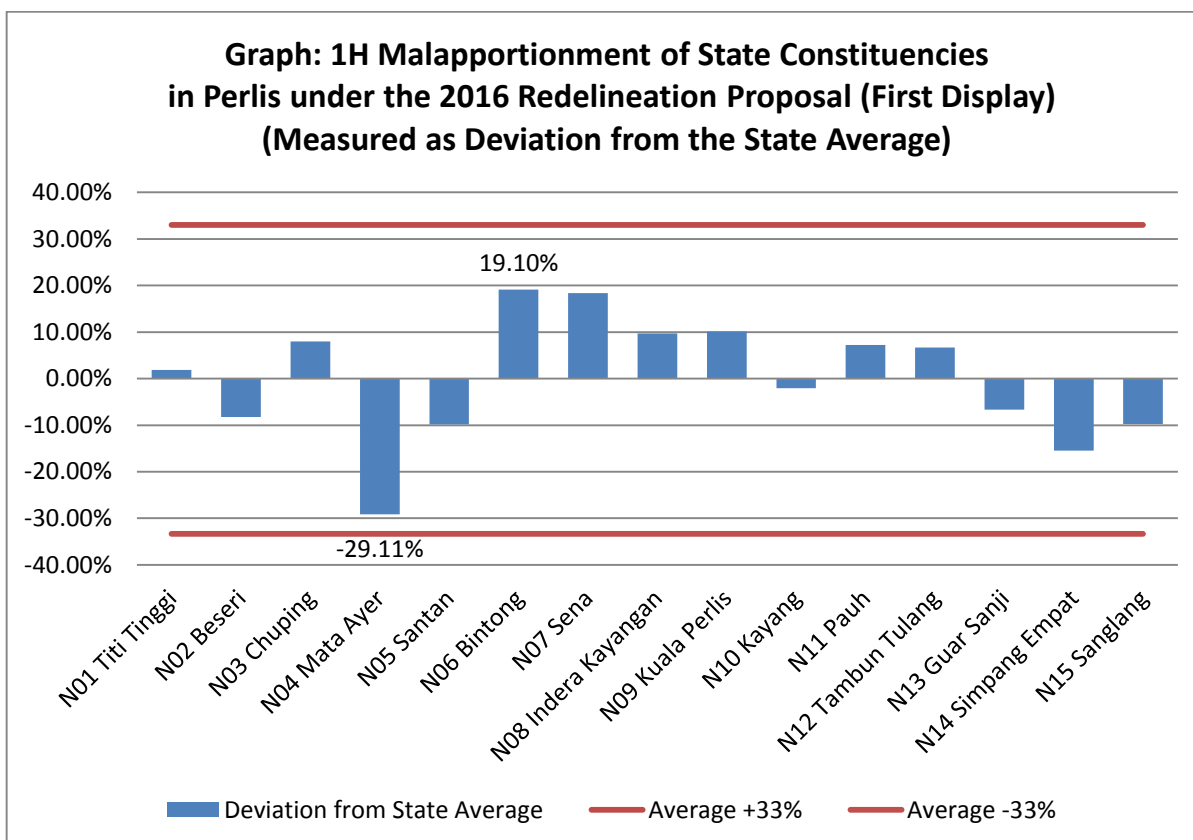in Sarawak after the 2015 Redelineation Exercise (measured as deviations from the state average)
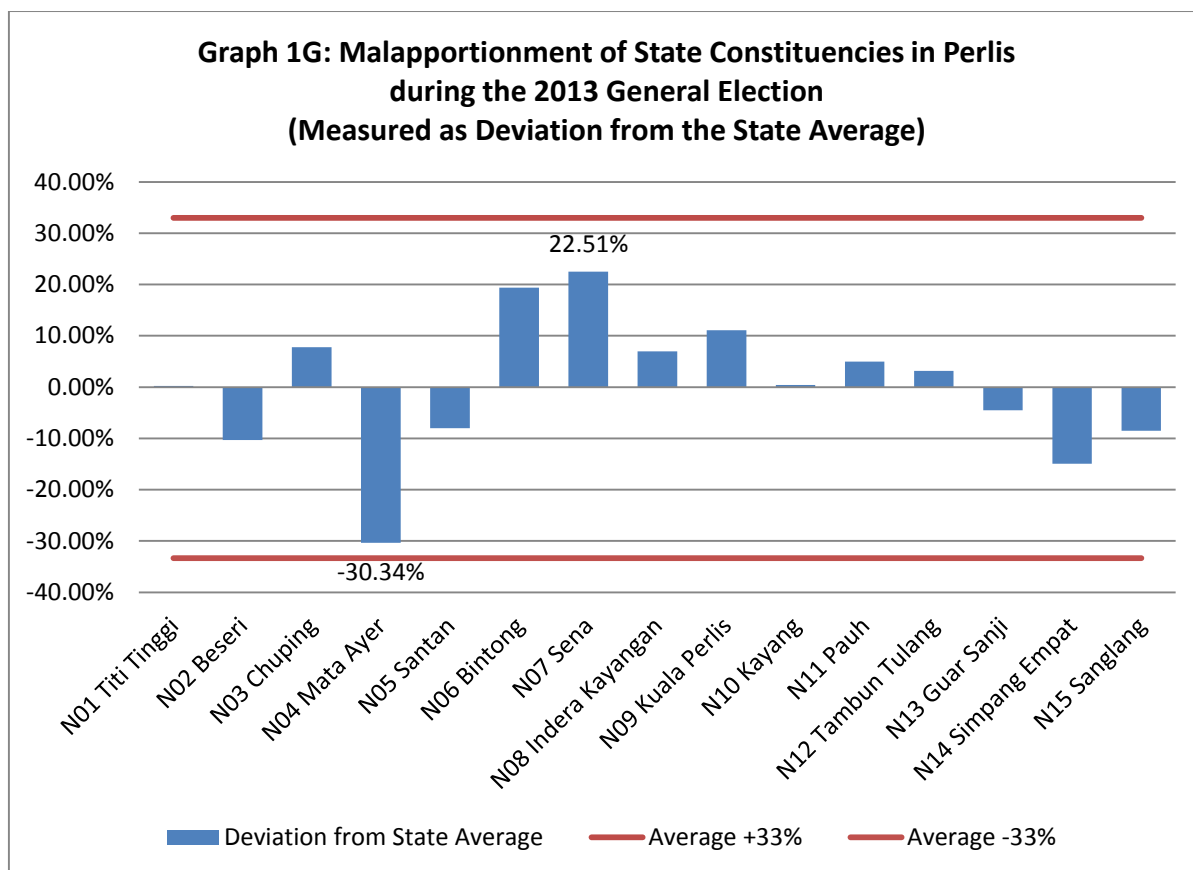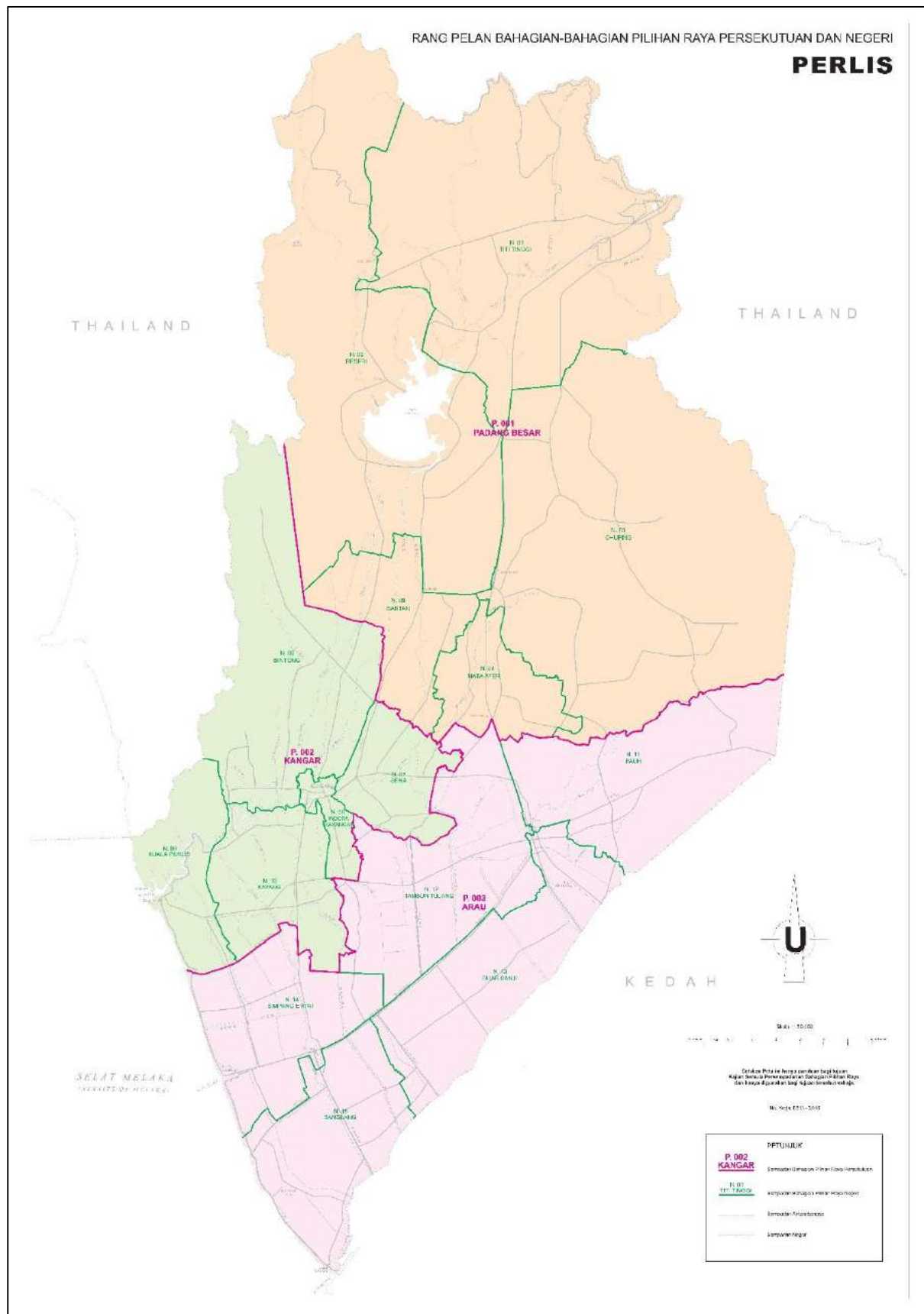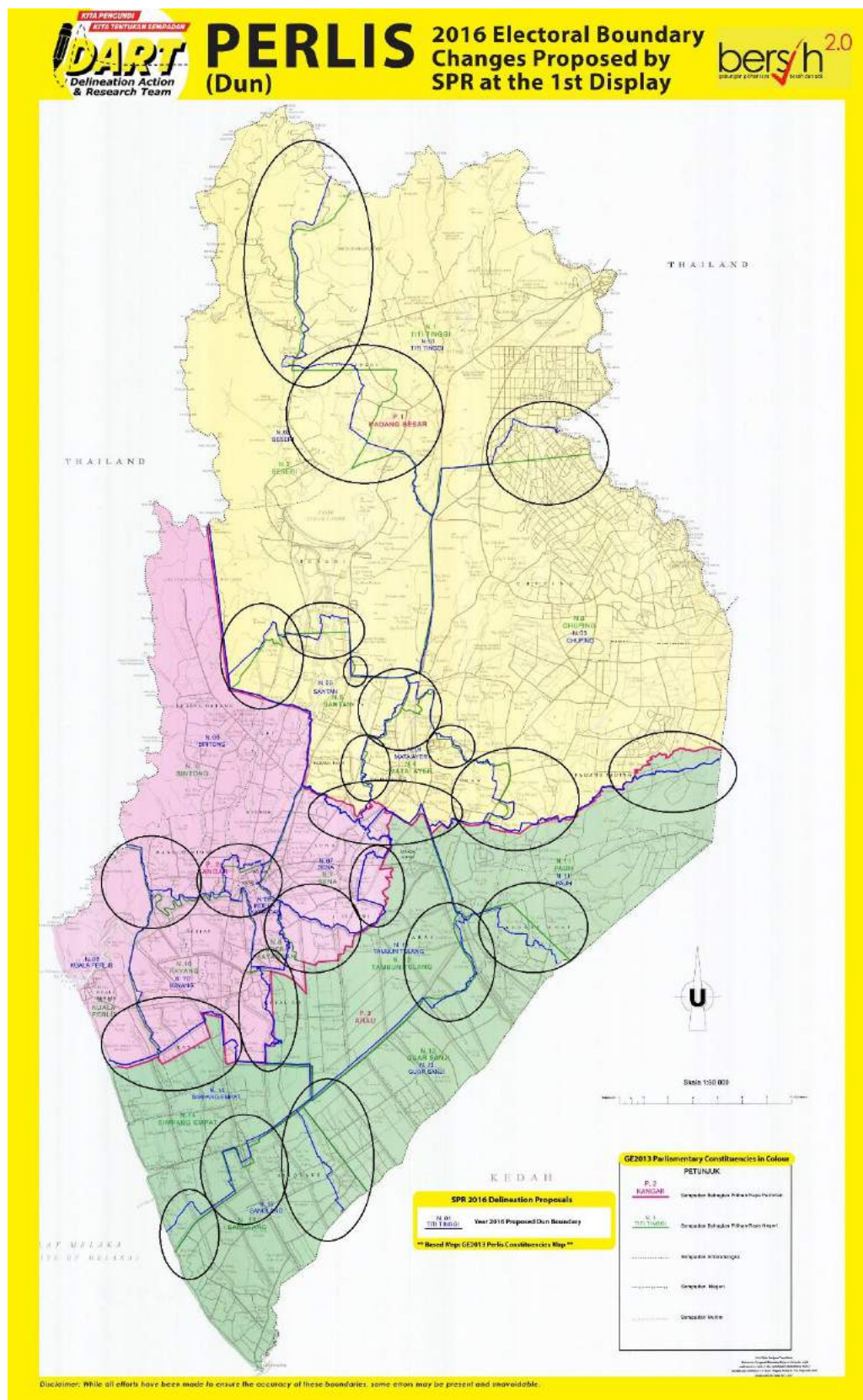
Malapportionment of State Constituencies in Sarawak

After the 2015 Redelineation Exercise

Excessively under-represented state constituencies:

No.	Constituency	Electorate	as % of average
1	N54 Pelawan	31,388	232.06%
2	N10 Pending	30,881	228.31%
3	N51 Bukit Asek	28,908	213.72%
4	N52 Dudong	28,569	211.22%
5	N11 Batu Lintang	28,238	208.77%
6	N74 Pujut	26,532	196.16%
7	N75 Senadin	26,257	194.12%
8	N12 Kota Sentosa	25,210	186.38%
9	N09 Padungan	22,873	169.10%
10	N73 Piasau	21,343	157.79%
11	N06 Tupong	20,713	153.13%
12	N45 Repok	20,282	149.95%
13	N68 Tanjong Batu	19,289	142.61%

Justification for excessive under-representation:

None. They could have had smaller – even if still oversized -- electorates, if voters were more evenly spread out across constituencies.

Excessively over-represented state constituencies:

No.	Constituency	Electorate	as % of average
1	N26 Gedong	6,712	49.62%
2	N24 Sadong Jaya	6,752	49.92%
3	N61 Pelagus	6,839	50.56%
4	N81 Bakelalan	7,087	52.40%
5	N65 Belaga	7,218	53.36%
6	N38 Kalaka	7,324	54.15%
7	N58 Balingian	7,484	55.33%
8	N25 Simunjan	7,513	55.54%
9	N66 Murum	7,648	56.54%
10	N78 Mulu	8,048	59.50%
11	N43 Daro	8,554	63.24%
12	N80 Batu Danau	8,661	64.03%
13	N37 Bukit Saban	8,676	64.14%
14	N57 Tellian	8,698	64.31%
15	N28 Lingga	8,731	64.55%
16	N27 Sebuyau	8,804	65.09%
17	N36 Layar	8,835	65.32%
18	N49 Ngemah	8,930	66.02%
19	N18 Serembu	8,965	66.28%

Justification for excessive under-representation:

Only some. Of the 19 excessively under-sized constituencies, only some were definitely qualified for over-representation on the ground of vast areas, such as N65 Belaga (11,579 km^2), N66 Murum (10,894 km^2), N78 Mulu (9,475 km^2), N80 Batu Danau (3,743 km^2) and N81 Bakelalan (3,444 km^2).

The same case however could not be made for N24 Sadong Jaya (76 km^2), N18 Serembu (311 km^2), N25 Simunjan (323 km^2), N38 Kalaka (422 km^2), N36 Layar (409 km^2), N27 Sebuyau (548 km^2), N37 Bukit Saban (577 km^2) and N26 Gedong (632 km^2).

Ratio of Largest Constituency to Smallest Constituency: 4.68: 1

Constituencies excluded by redelineation:

According to the redelineation notice published by the EC, approximately 10 out 25 of parliamentary constituencies in Sabah are excluded: P176 Kimanis, P177 Beaufort, P178 Sipitang, P179 Ranau, P180 Keningau, P181 Tenom, P185 Batu Sapi, P186 Sandakan, P189 Semporna, and 190 Tawau.

Changes in Malapportionment:

In the 2005 redelineation exercise, the EC created several excessively over-sized state constituencies in urban areas, and several excessively under-sized parliamentary constituencies. The largest constituency Pending had an electorate as large as 235.13% of the state average whereas the smallest one Bakelalan had one as small as 49.49% of the state average.

By 2011, malapportionment was very moderately reduced by growth and movement of voters. Pending's electorate was by then 213.88% of the state average while Bakelalan's weight stayed almost the same.

The 2015 redelineation actually worsened malapportionment despite 11 new seats were added. As many as 38 out of the original 71 constituencies – including many over-sized ones -- were excluded from redelineation. Most of the new 11 new constituencies created were added to areas that are already over-represented, and five of the new constituencies had electorates smaller than two-third of the state average, with Gedong having as low as 49.62% of the average. Despite extensive boundary changes, malapportionment has worsened from 2005/2011 to 2015.

Conclusion:

The EC has abdicated its duty in mitigating malapportionment of constituencies.

Please see Appendix 14:

Graph 14E: Malapportionment of State Constituencies in Sarawak after the 2015 Redelineation Exercise

Graph 14F: Malapportionment of State Constituencies in Sarawak after the 2005 Redelineation Exercise (measured as deviations from the state average)
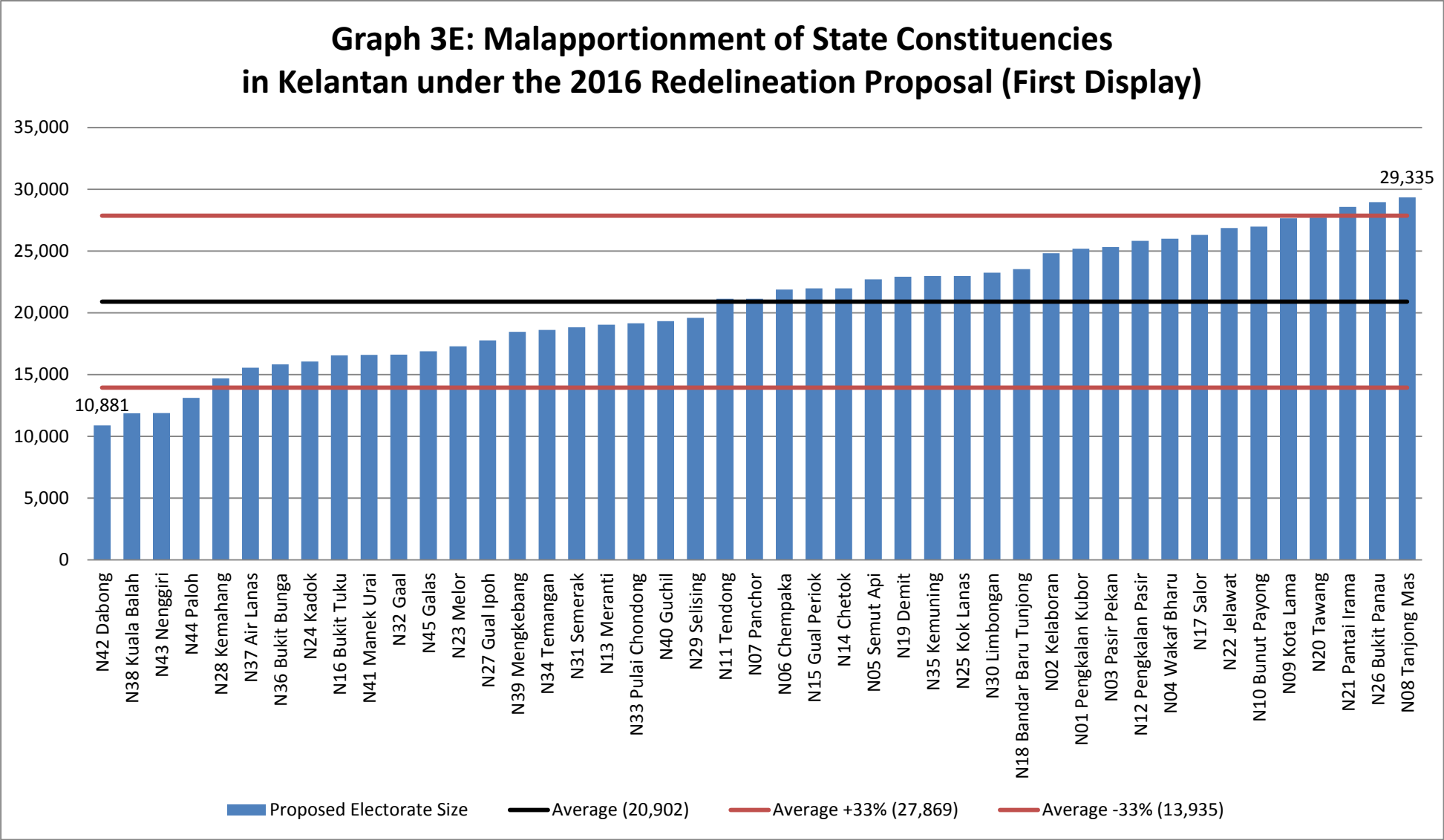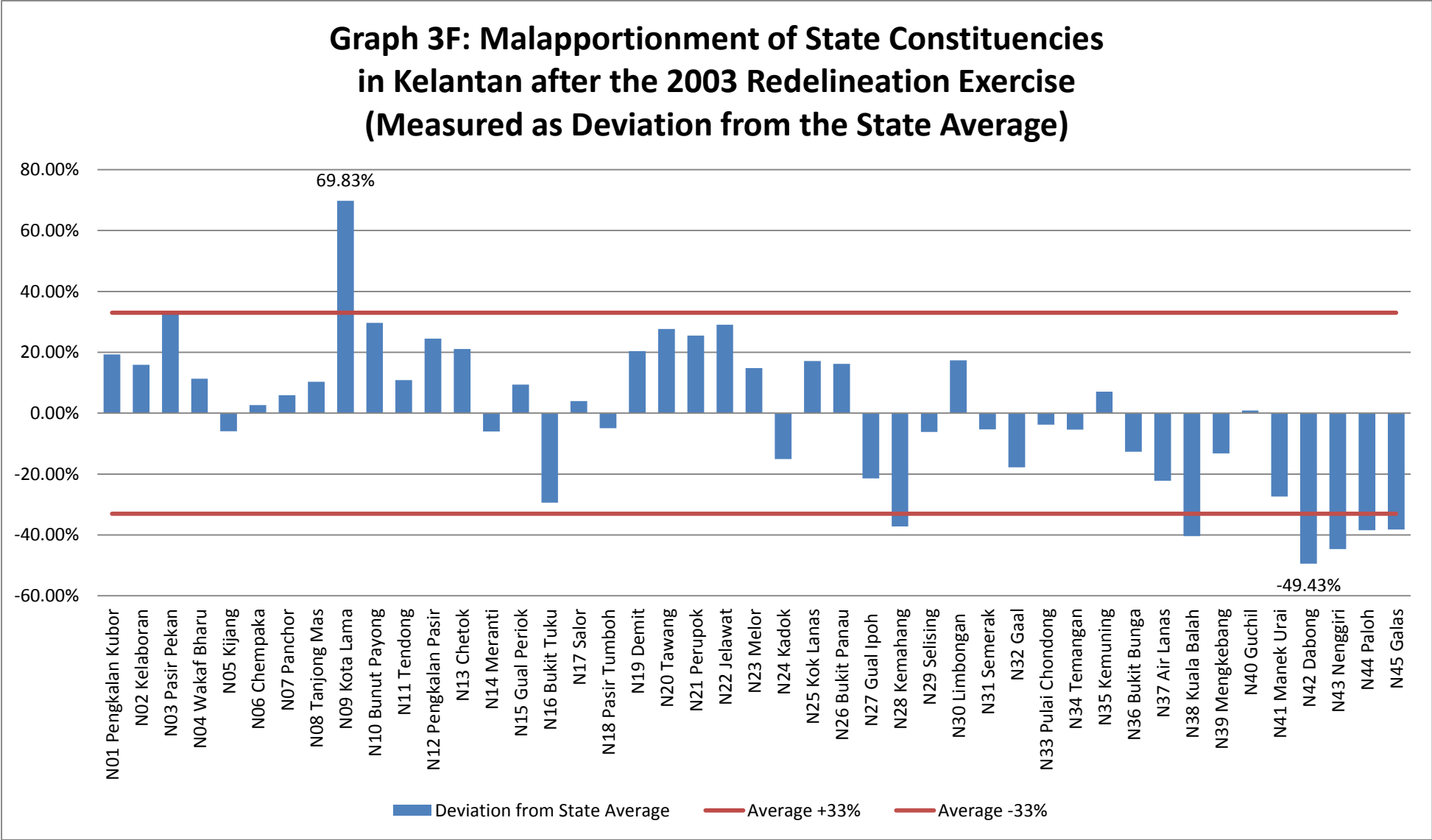
Graph 14G: Malapportionment of State Constituencies in Sarawak during the 2011 State Election (measured as deviations from the state average)
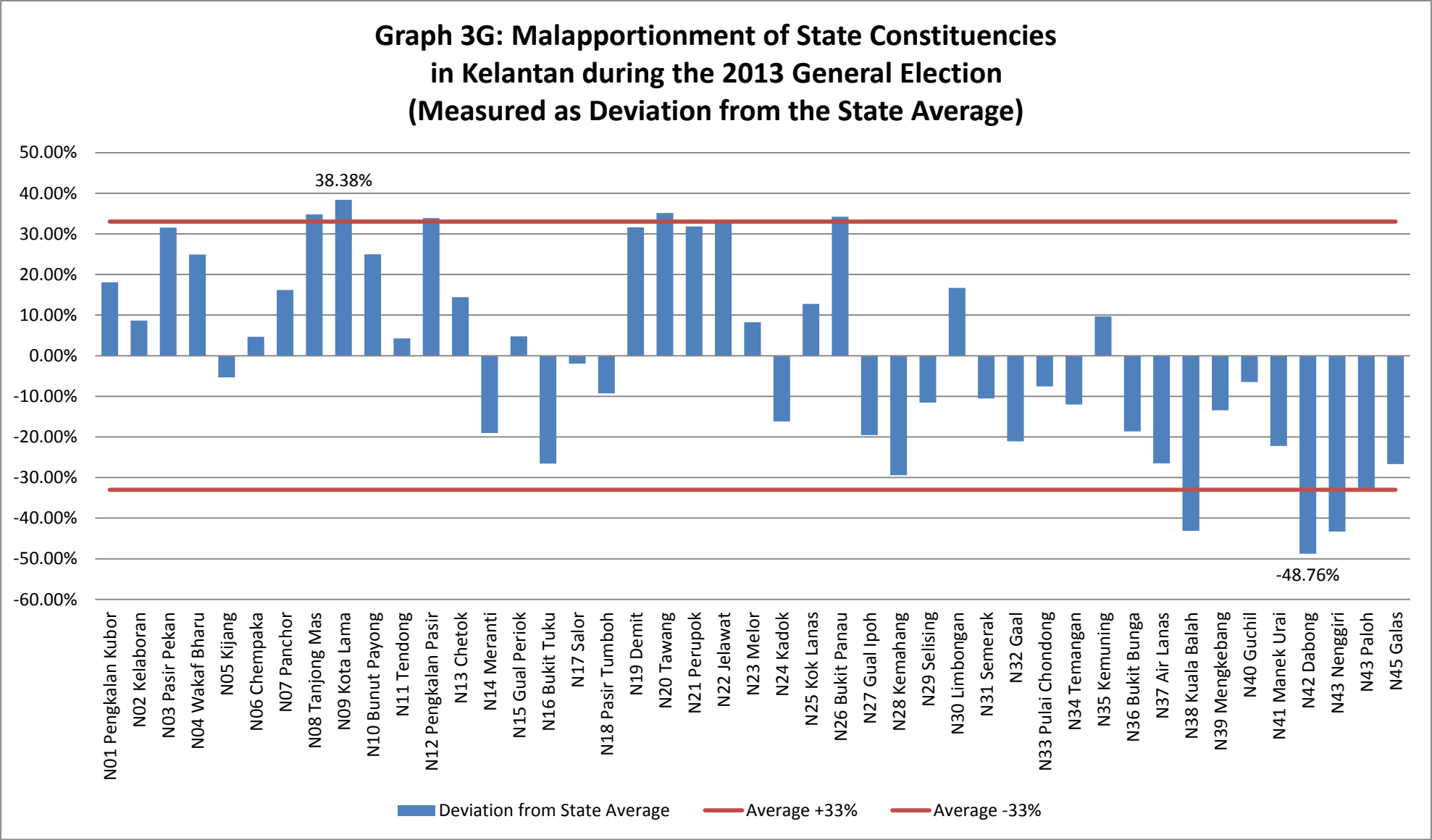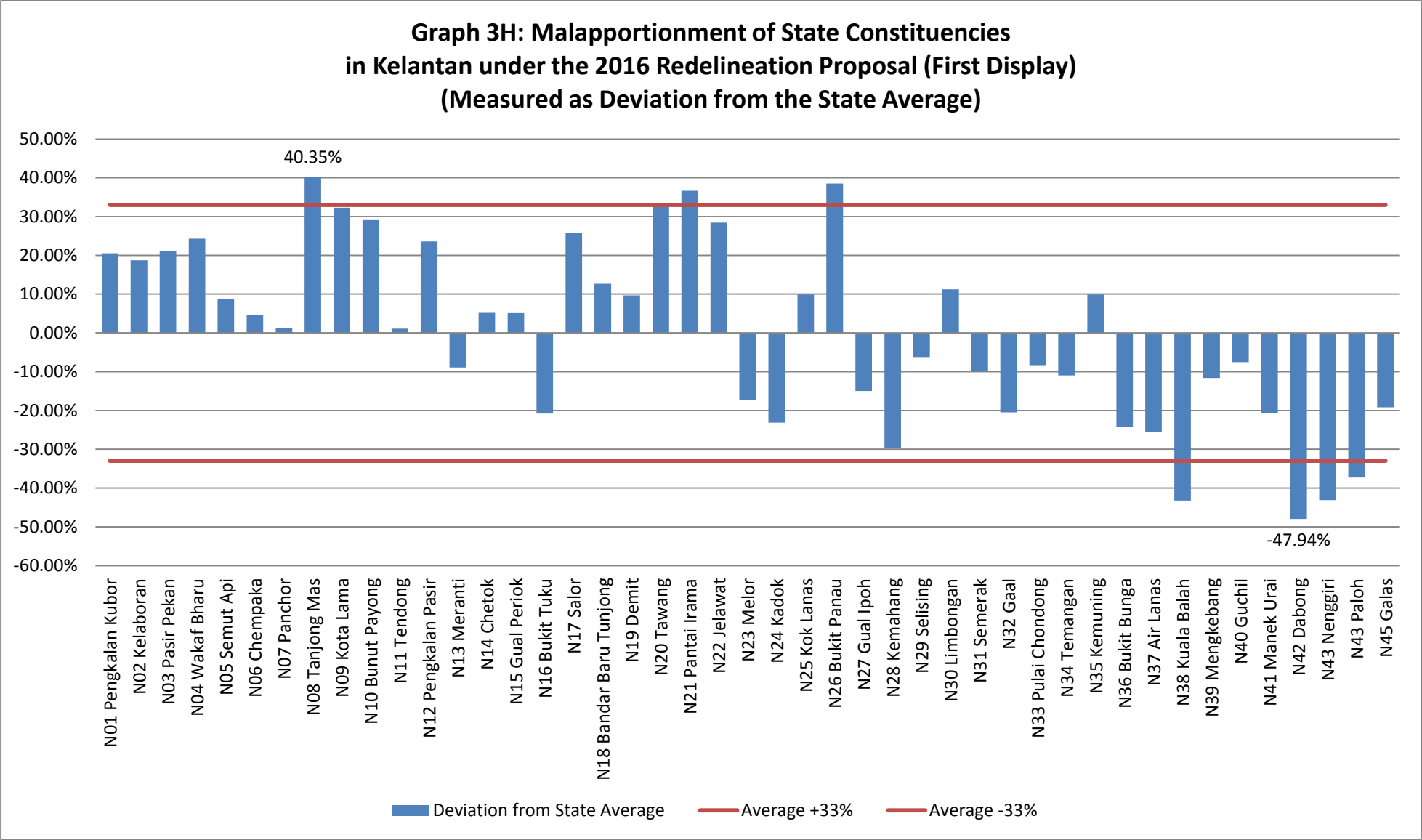
Graph 14H: Malapportionment of State Constituencies in Sarawak after the 2015 Redelineation Exercise (measured as deviations from the state average)

APPENDIX

APPENDIX 1

Graph 1A: Malapportionment of Parliamentary Constituencies in Perlis under the 2016 Redelineation Proposal (First Display)

Graph 1A: Malapportionment of Parliamentary Constituencies in Perlis under the 2016 Redelineation Proposal (First Display)

Graph 1B: Malapportionment of Parliamentary Constituencies in Perlis after the 2003 Redelineation Exercise (Measured as Deviation from the State Average)

Graph 1B: Malapportionment of Parliamentary Constituencies in Perlis after the 2003 Redelineation Exercise (Measured as Deviation from the State Average)

**Graph 1C: Malapportionment of Parliamentary Constituencies
in Perlis during the 2013 General Election
(Measured as Deviation from the State Average)**

**Graph 1D: Malapportionment of Parliamentary Constituencies
in Perlis under the 2016 Redelineation Proposal (First Display)
(Measured as Deviation from the State Average)**

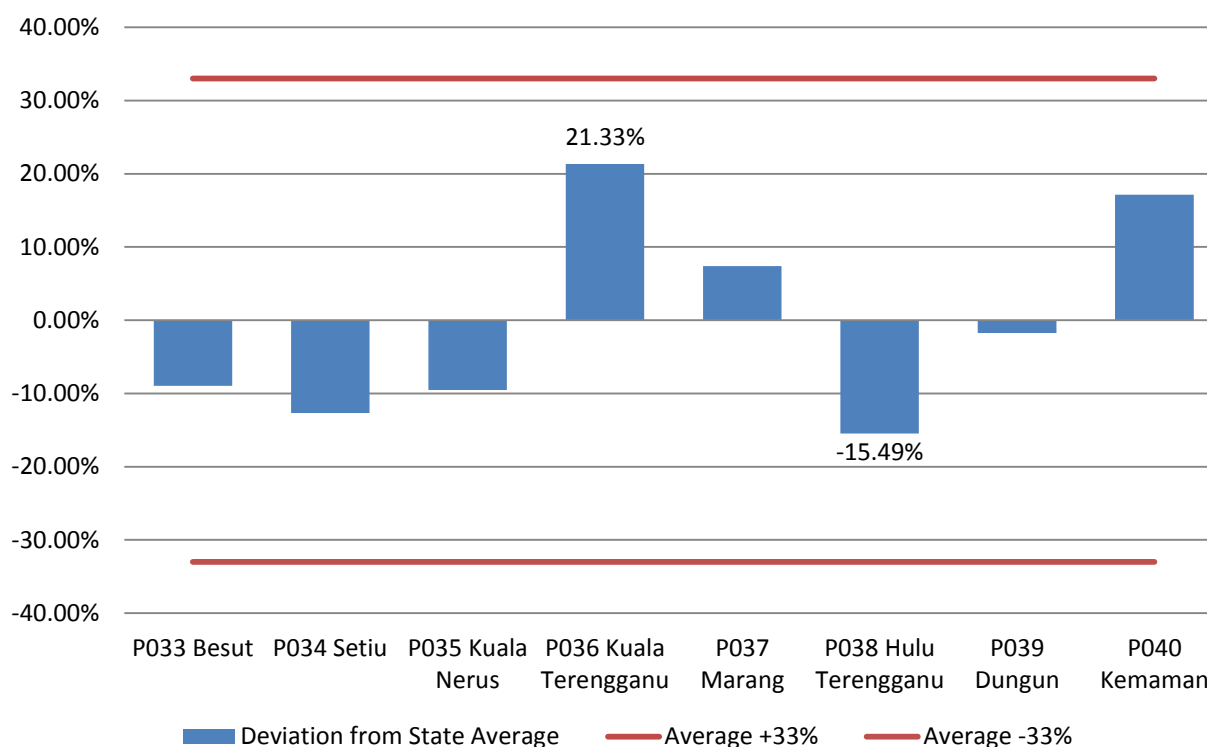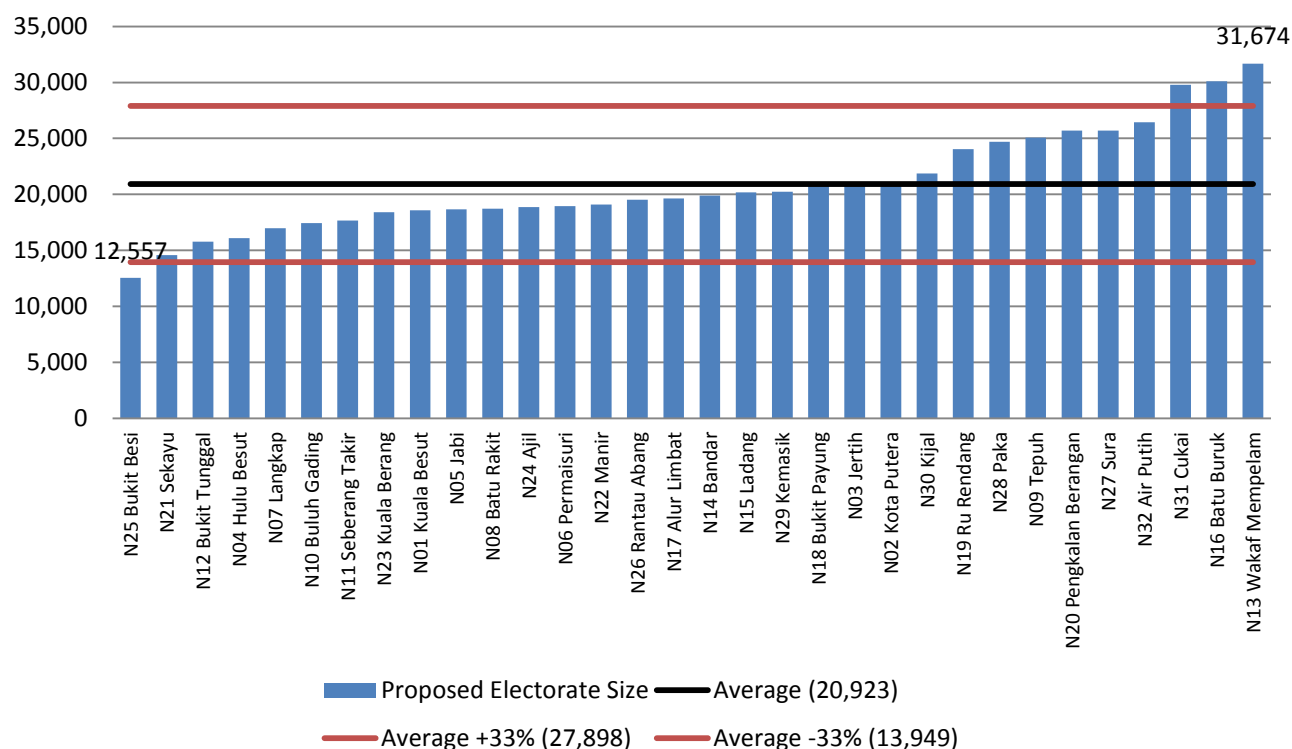68

**Graph 1E: Malapportionment of State Constituencies
in Perlis under the 2016 Redelineation Proposal (First Display)**

**Graph 1F: Malapportionment of State Constituencies
in Perlis after the 2003 Redelineation Exercise
(Measured as Deviation from the State Average)**

Graph 1G: Malapportionment of State Constituencies in Perlis during the 2013 General Election (Measured as Deviation from the State Average)
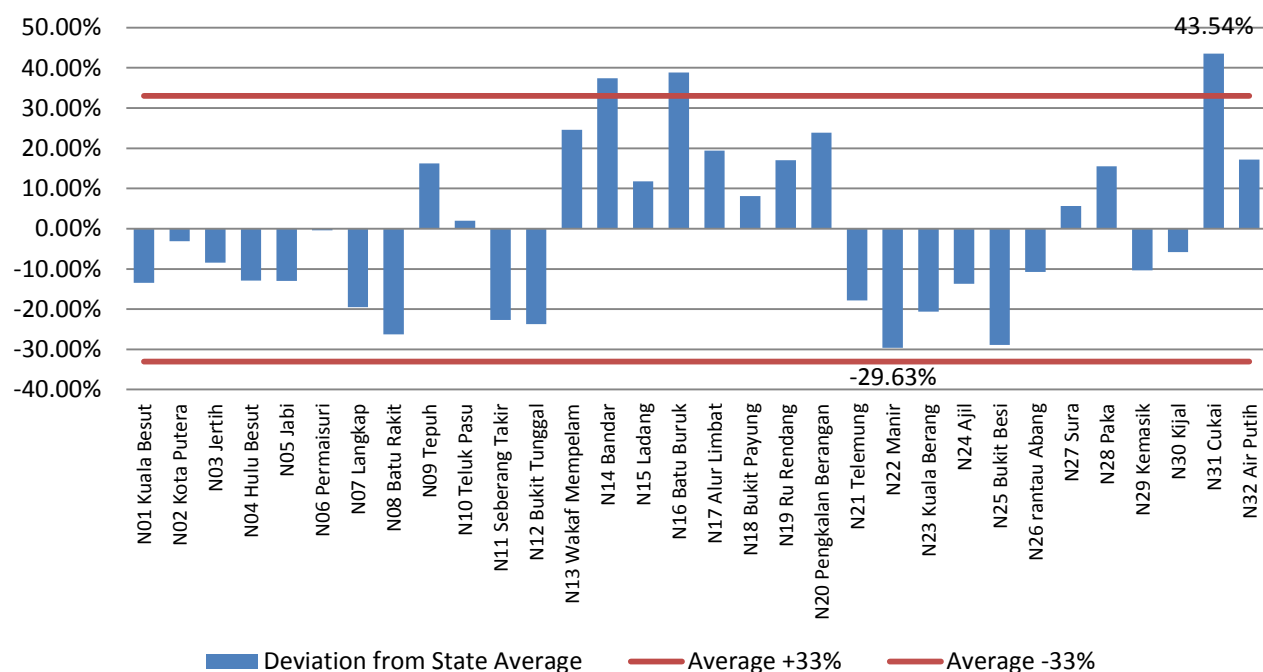

Graph: 1H Malapportionment of State Constituencies in Perlis under the 2016 Redelineation Proposal (First Display) (Measured as Deviation from the State Average)

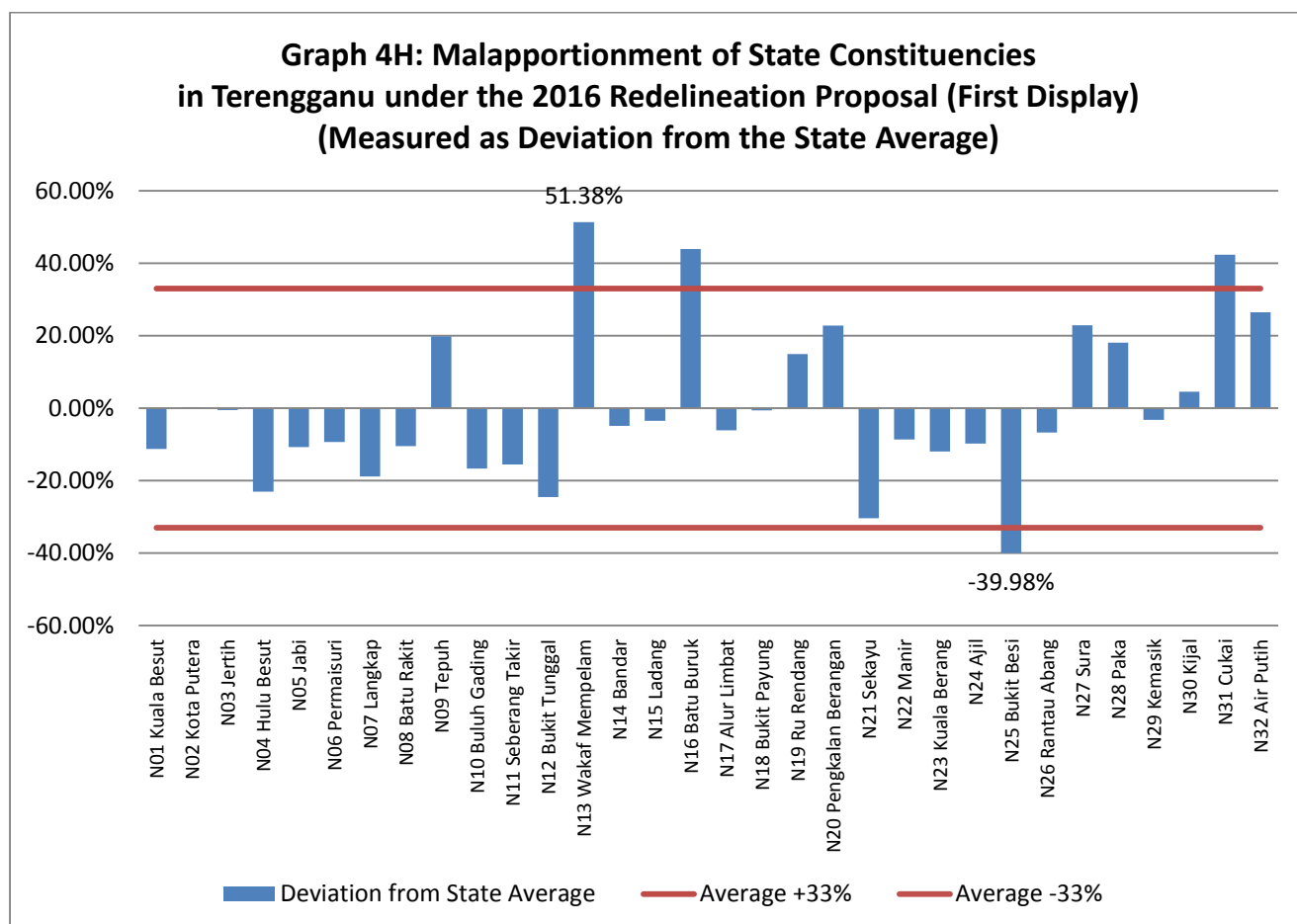**Map 1A: Draft Plan for Parliamentary and State Constituencies – Perlis**

Map 1B: Identified and Suspected Boundary Changes for State Constituencies in Perlis

Source: Bersih 2.0 Delineation Action and Research Team, 2016

APPENDIX 2

Graph 2A: Malapportionment of Parliamentary Constituencies in Kedah under the 2016 Redelineation Proposal (First Display)

Legend:
- Proposed Electorate Size
- Average (69, 390)
- Average +33% (92, 839)
- Average -33% (46, 420)

Labeled values: 37,645 · 101,829

Categories: P004 Langkawi, P007 Padang Terap, P013 Sik, P005 Jerlun, P018 Kulim-Bandar Baharu, P006 Kubang Pasu, P011 Pendang, P009 Alor Setar, P012 Jerai, P017 Padang Serai, P014 Merbok, P008 Pokok Sena, P010 Kuala Kedah, P016 Baling, P015 Sungai Petani

Graph 2B: Malapporitionment of Parliamentary Constituencies in Kedah after the 2003 Redelineation Exercise (Measured as Deviation from the State Average)

Labeled values: 40.05% · -48.27%

Legend:
- Deviation from State Average
- Average -33%
- % Average

Categories: P04 Langkawi, P05 Jerlun, P06 Kubang Pasu, P07 Padang Terap, P08 Pokok Sena, P09 Alor Star, P010 Kuala Kedah, P011 Pendang, P012 Jerai, P013 Sik, P014 Merbok, P015 Sungai Petani, P016 Baling, P017 Padang Serai, P018 Kulim-Bandar Baharu

Graph 2C: Malapportionment of Parliamentary Constituencies in Kedah during the 2013 General Election (Measured as Deviation from the State Average)

Legend: Deviation from State Average — Average -33% — % Average

Graph 2D: Malapportionment of Parliamentary Constituencies in Kedah under the 2016 Redelineation Proposal (First Display) (Measured as Deviation from the State Average)
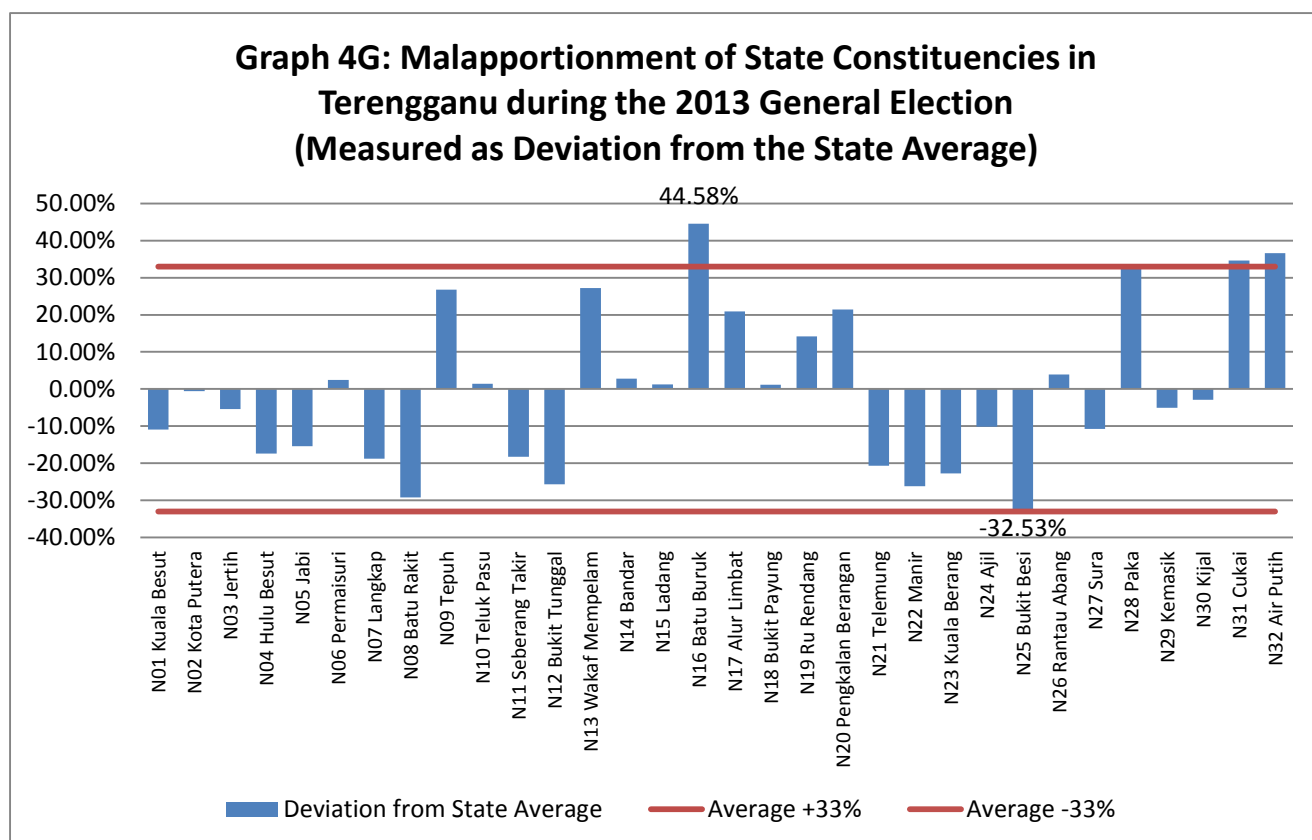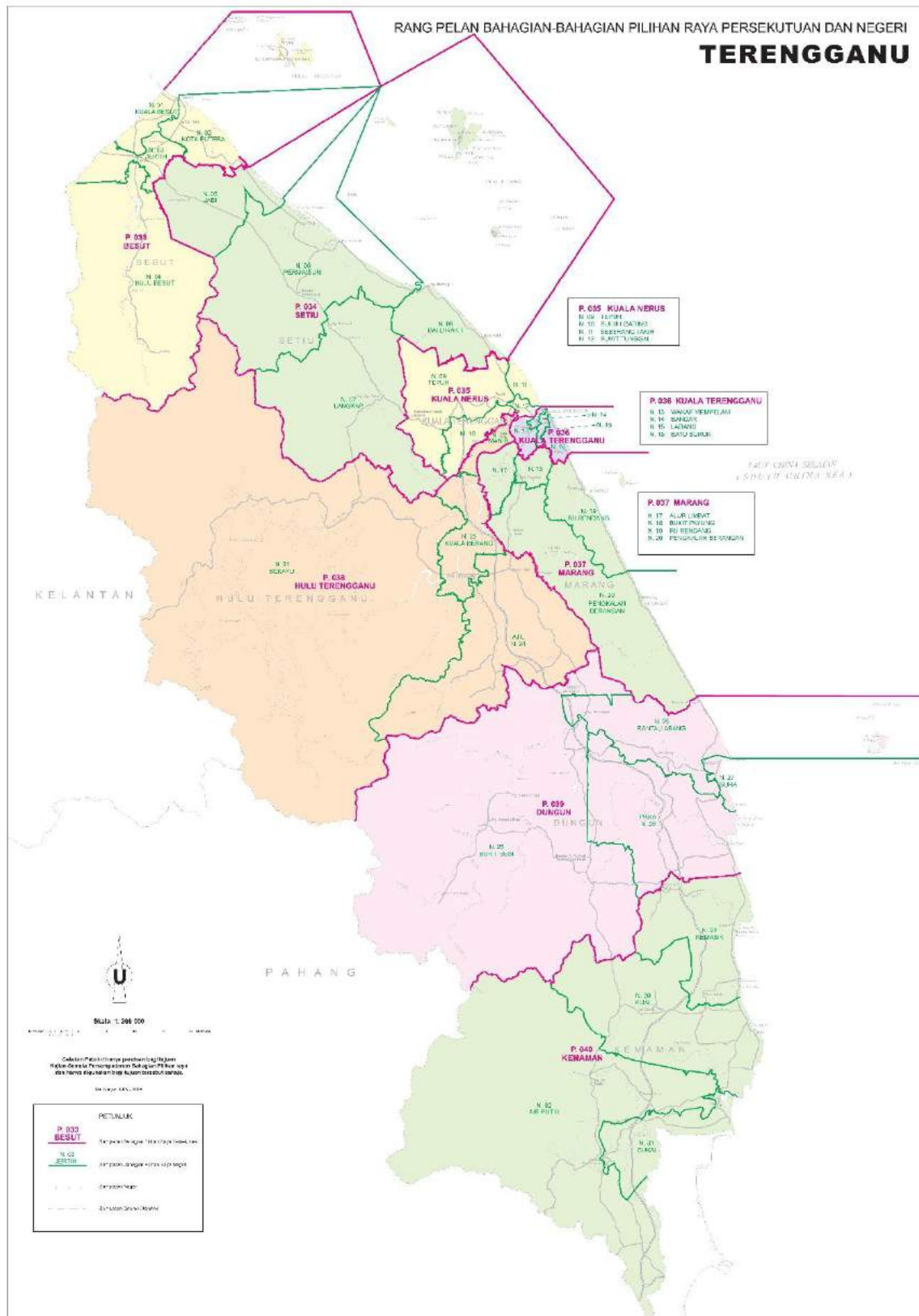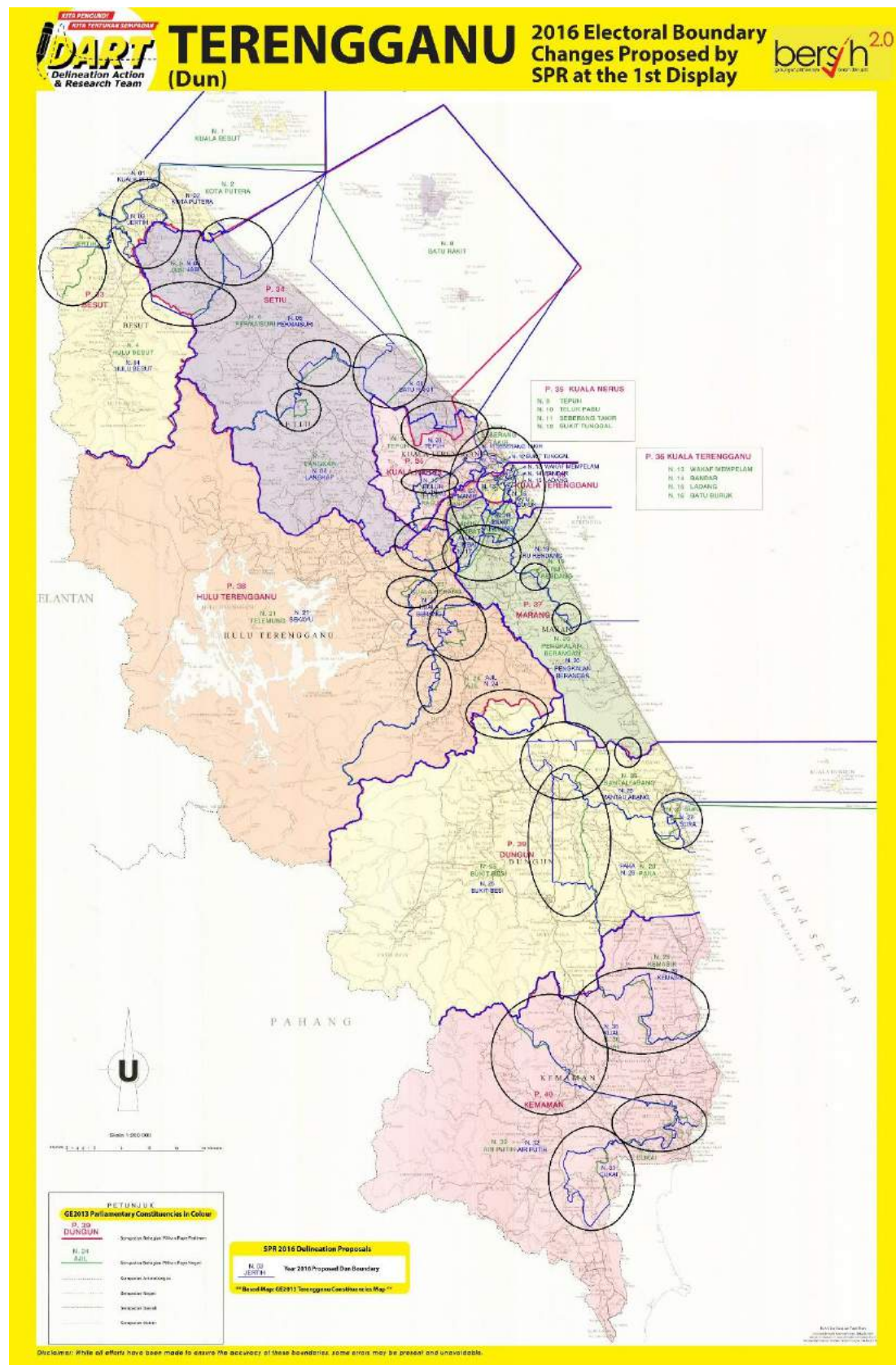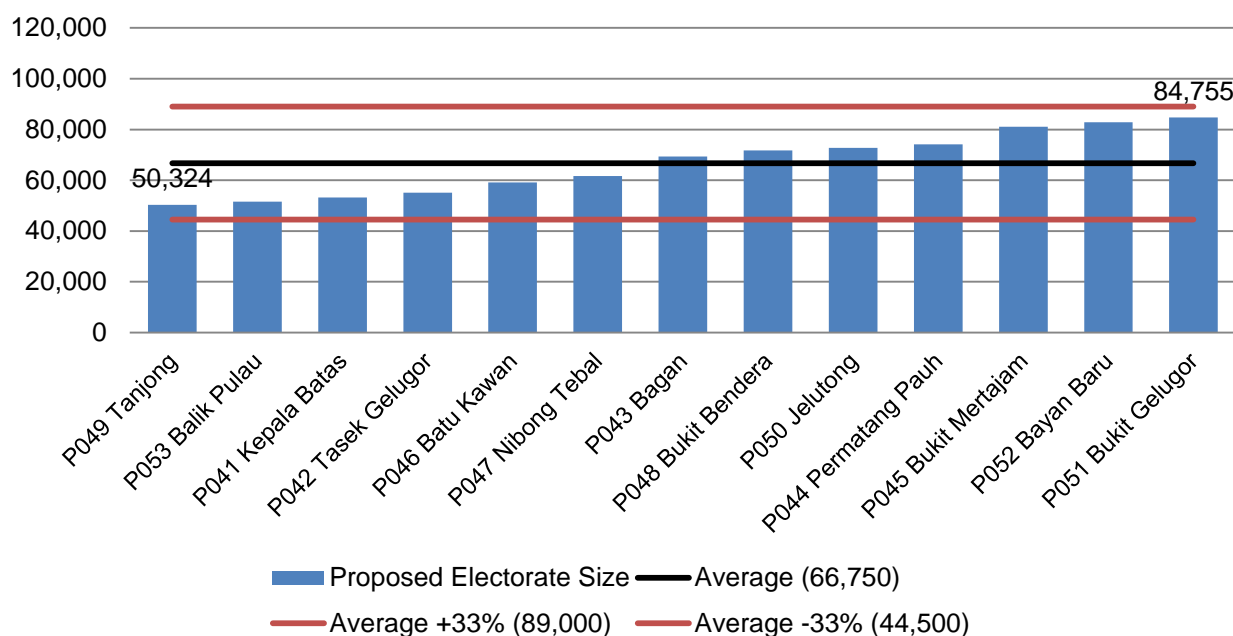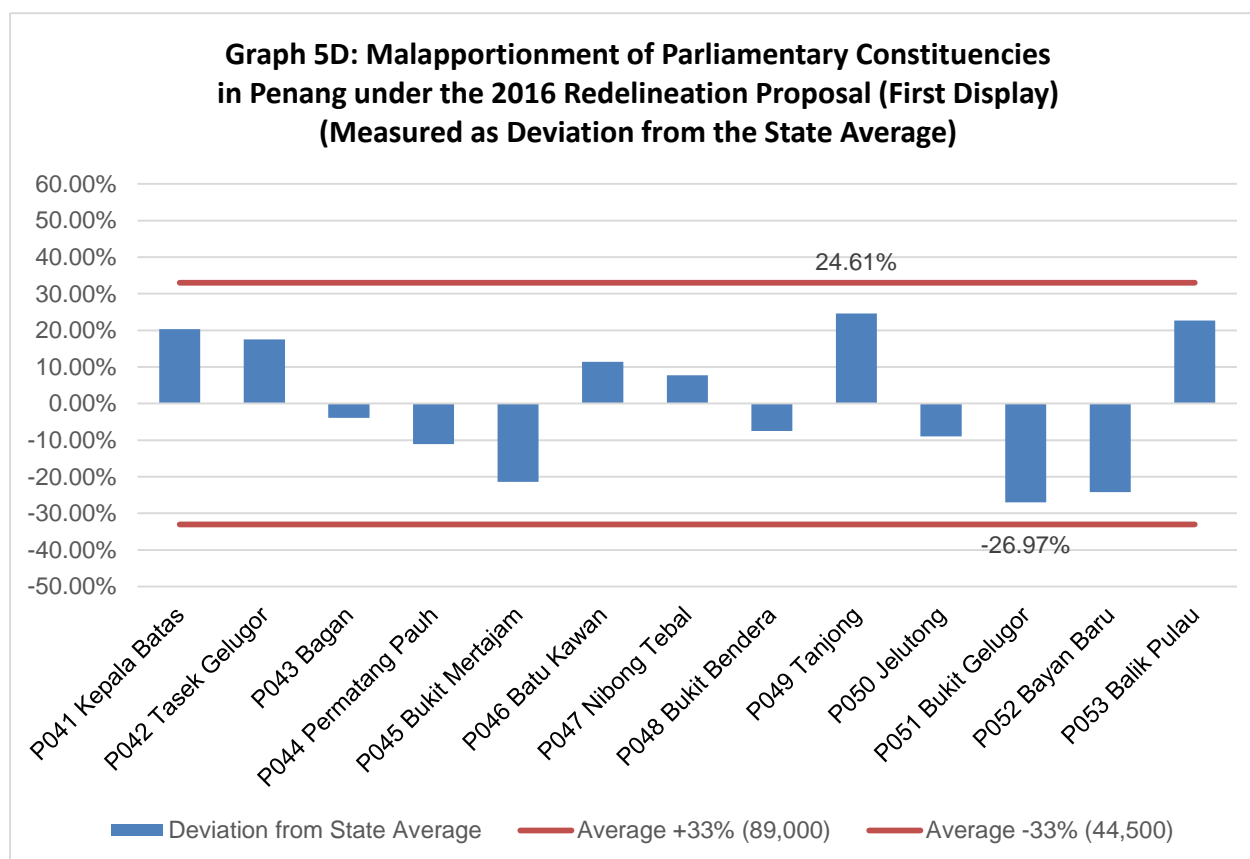

Legend: Deviation from State Average ■ · Average -33% — · % Average —
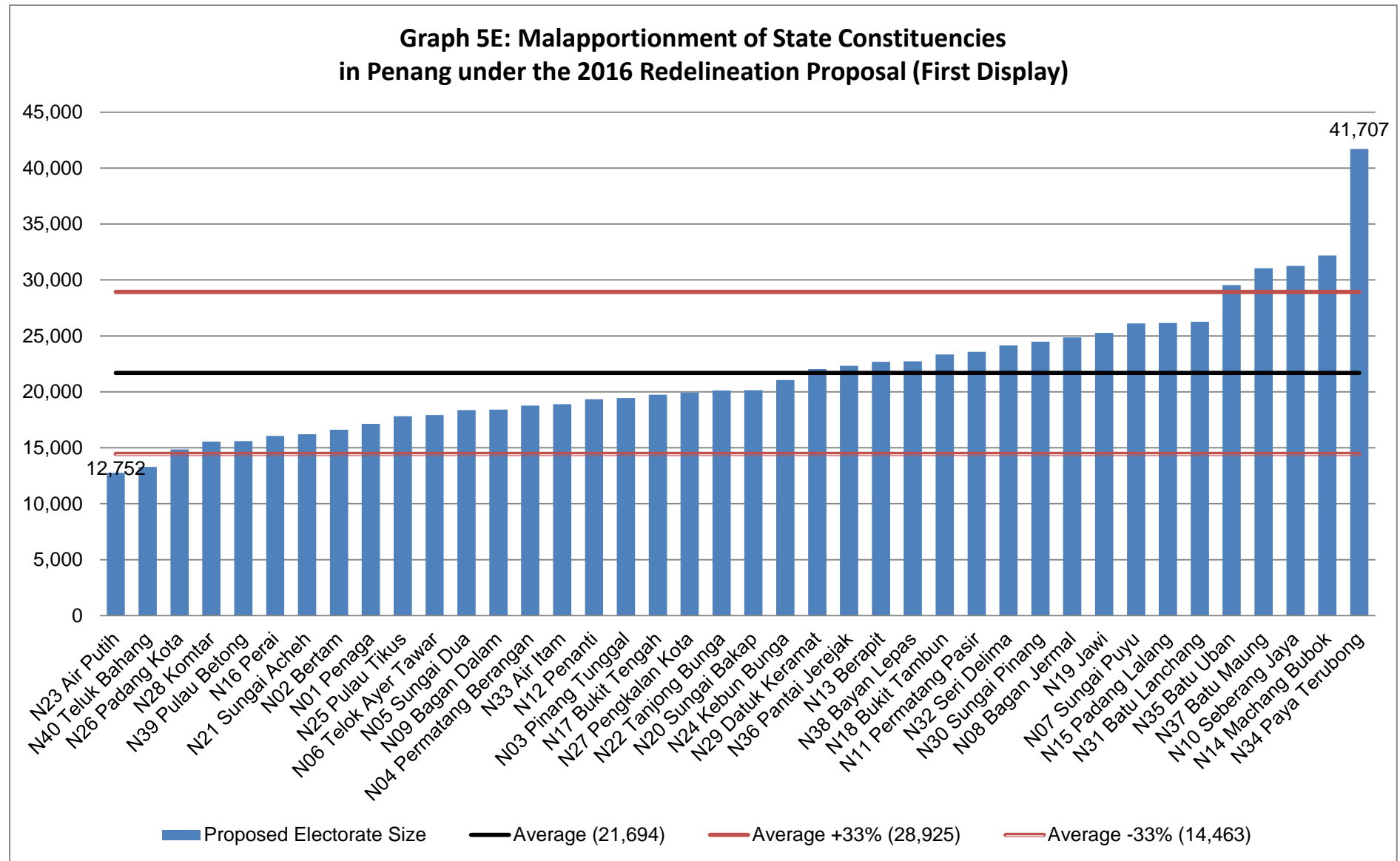
**Graph 2E: Malapportionment of State Constituencies
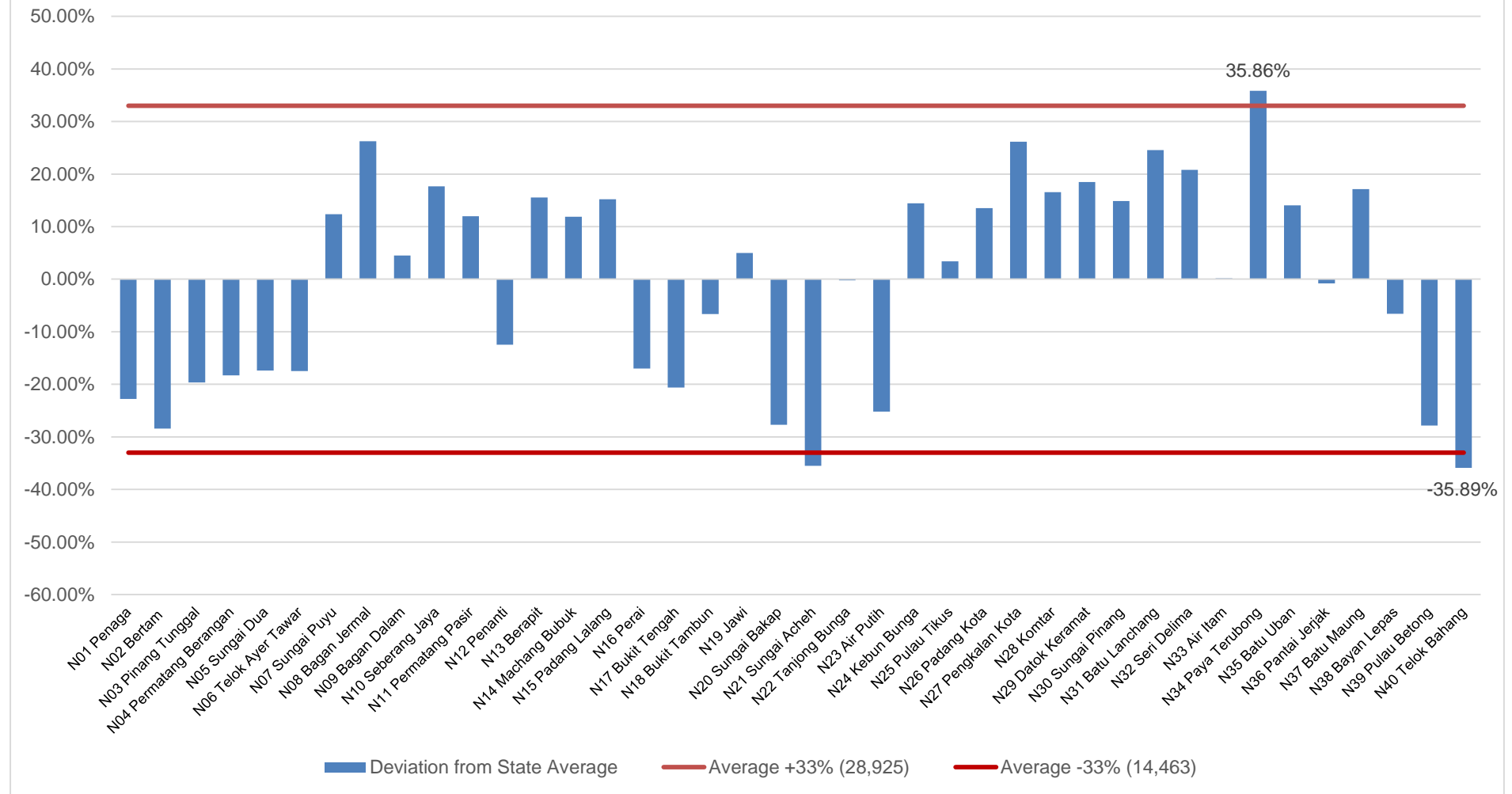in Kedah under the 2016 Redelineation Proposal (First Display)**

**Graph 2F: Malapportionment of State Constituencies
in Kedah after the 2003 Redelineation Exercise
(Measured as Deviation from the State Average)**

**Graph 2G: Malapportionment of State Constituencies
in Kedah during the 2013 General Election
(Measured as Deviation from the State Average)**

**Graph 2H: Malapportionment of State Constituencies
in Kedah under the 2016 Redelineation Proposal (First Display)
(Measured as Deviation from the State Average)**

Map 2A: Draft Plan for Parliamentary and State Constituencies – Kedah

Map 2B: Identified and Suspected Boundary Changes for State Constituencies in Kedah

Source: Bersih 2.0 Redelineation and Action Research Team, 2016

APPENDIX 3

**Graph 3A: Malapportionment of State Constituencies
in Kelantan under the 2016 Redelineation Proposal (First Display)**

41,894

101,318

Proposed Electorate Size — Average (67,185)

Average +33% (89,580) — Average -33% (44,790)

**Graph 3B: Malapportionment of Parliamentary Constituencies
in Kelantan after the 2003 Redelineation Exercise
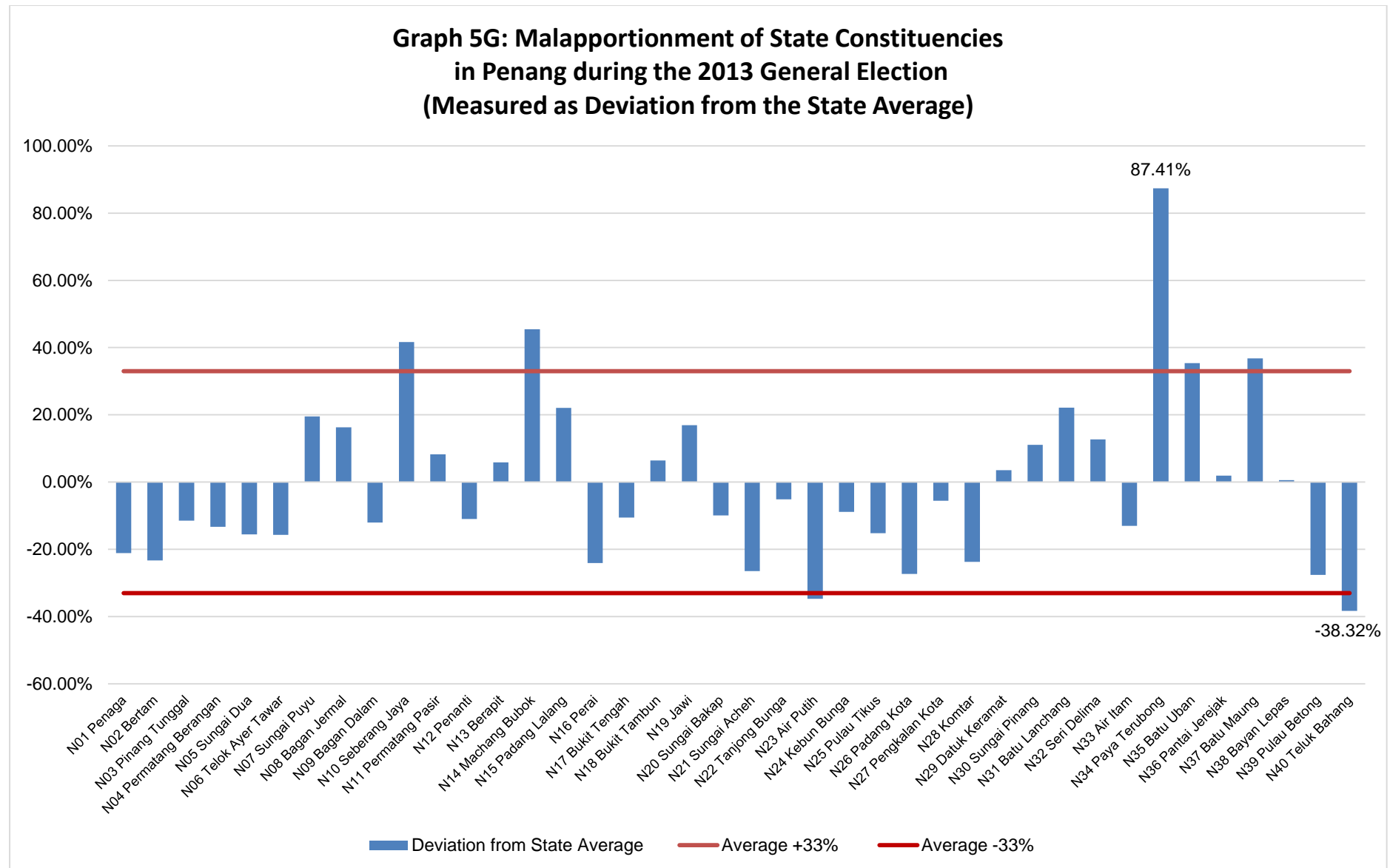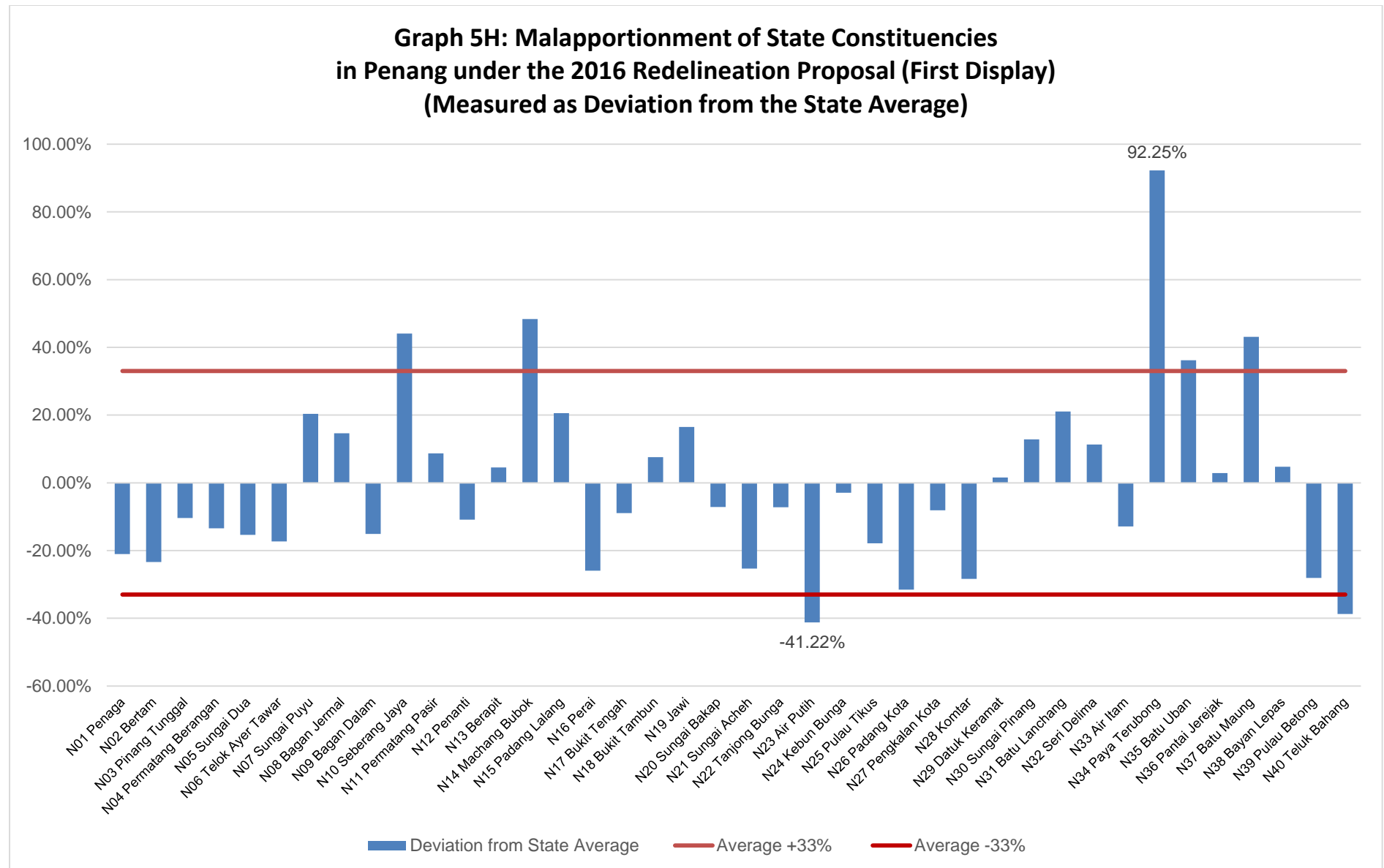(Measured as Deviation from the State Average)**

49.37%

-44.40%

Deviation from State Average — Average +33% — Average -33%

Graph 3C: Malapportionment of Parliamentary Constituencies in Kelantan during the 2013 General Election (Measured as Deviation from the State Average)

Graph 3D: Malapportionment of Parliamentary Constituencies in Kelantan under the 2016 Redelineation Proposal (First Display) (Measured as Deviation from the State Average)

Graph 3E: Malapportionment of State Constituencies
in Kelantan under the 2016 Redelineation Proposal (First Display)

**Graph 3F: Malapportionment of State Constituencies
in Kelantan after the 2003 Redelineation Exercise
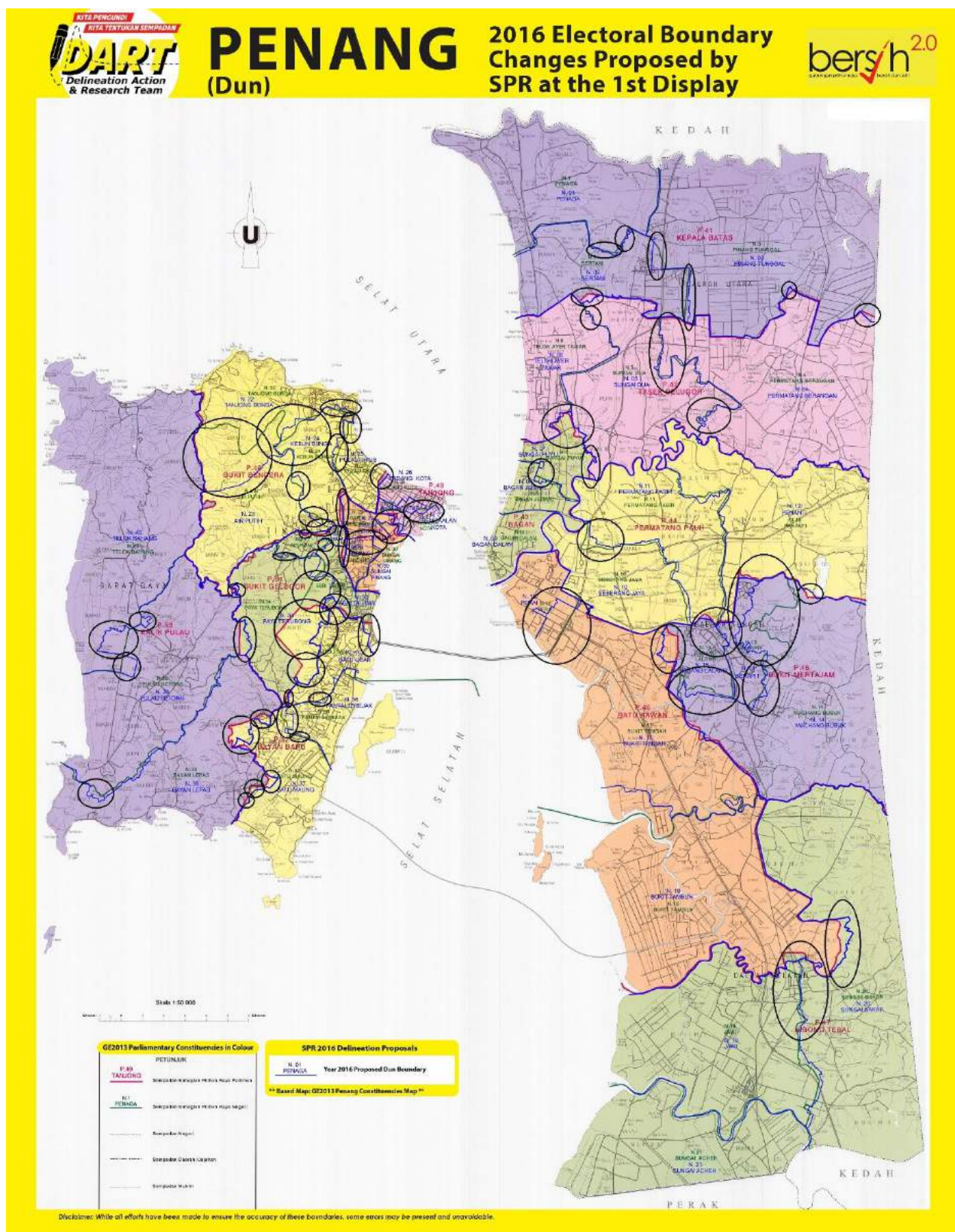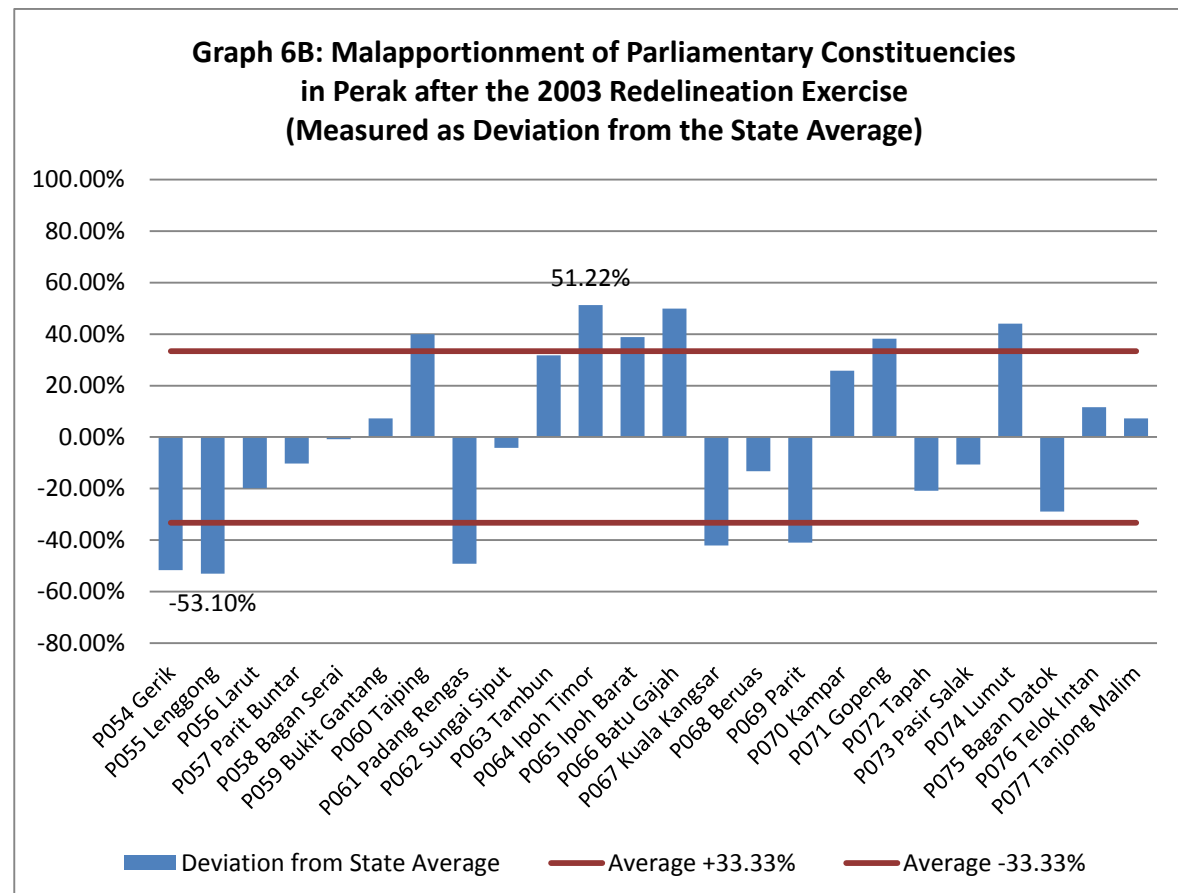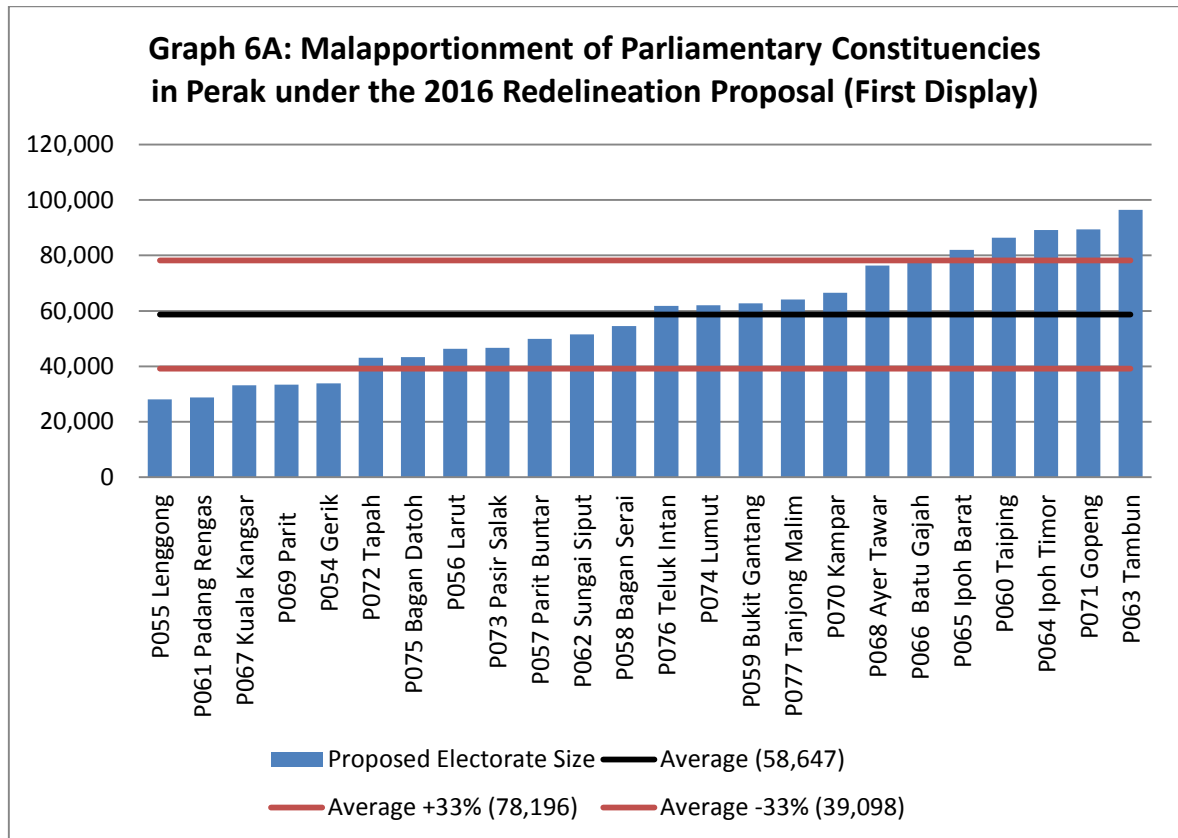(Measured as Deviation from the State Average)**

**Graph 3G: Malapportionment of State Constituencies
in Kelantan during the 2013 General Election
(Measured as Deviation from the State Average)**

Graph 3H: Malapportionment of State Constituencies
in Kelantan under the 2016 Redelineation Proposal (First Display)
(Measured as Deviation from the State Average)

Map 3A: Draft Plan for Parliamentary and State Constituencies – Kelantan
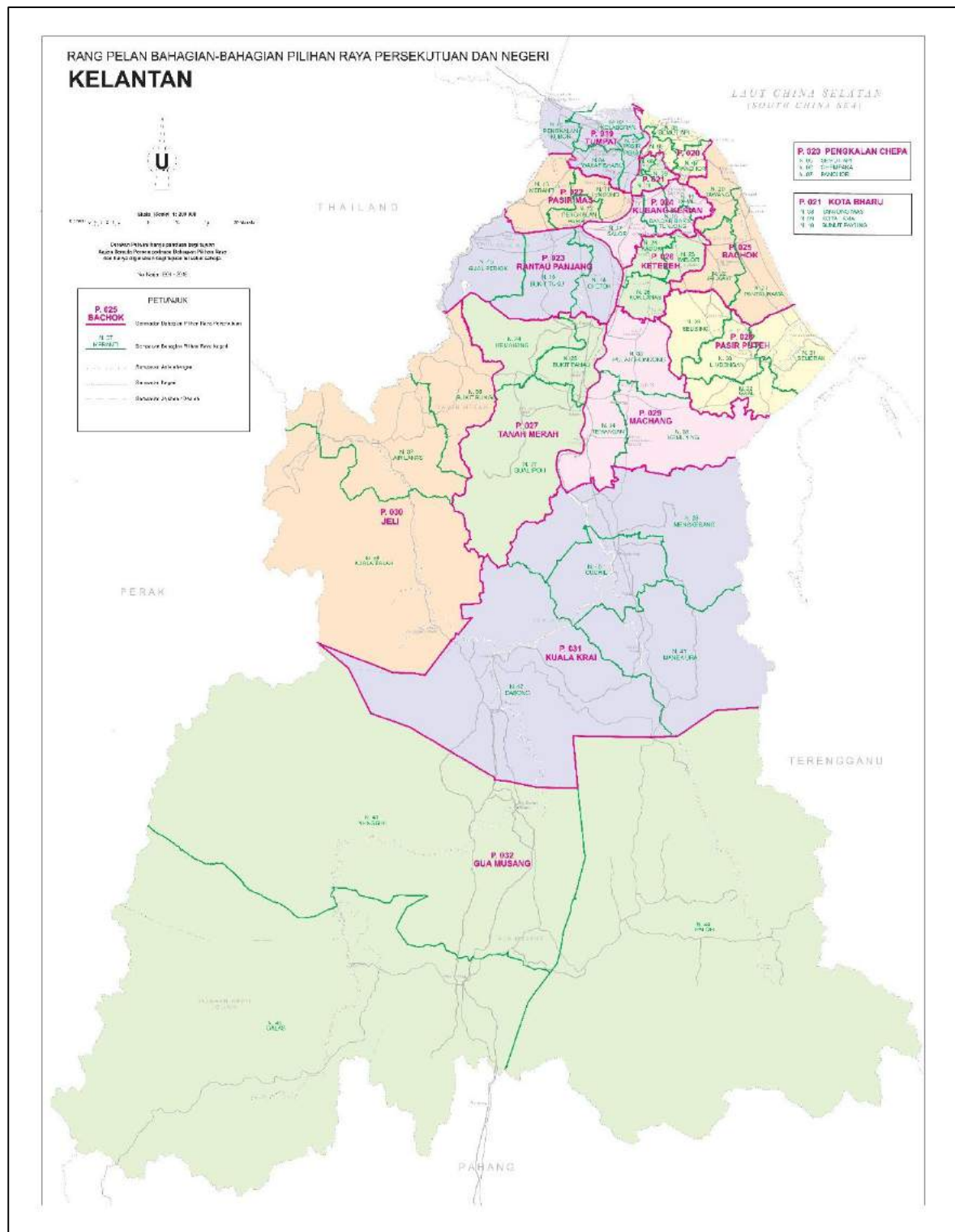
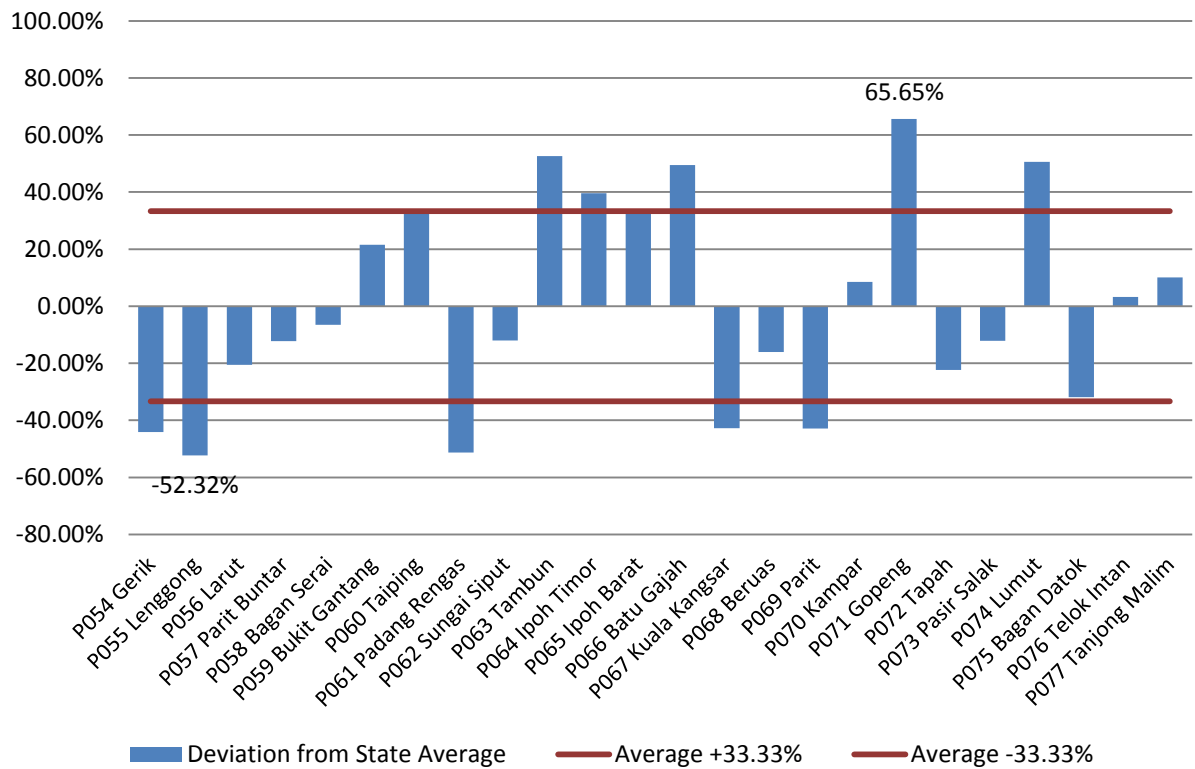**Map 3B: Identified and Suspected Boundary Changes for State Constituencies in Kelantan**
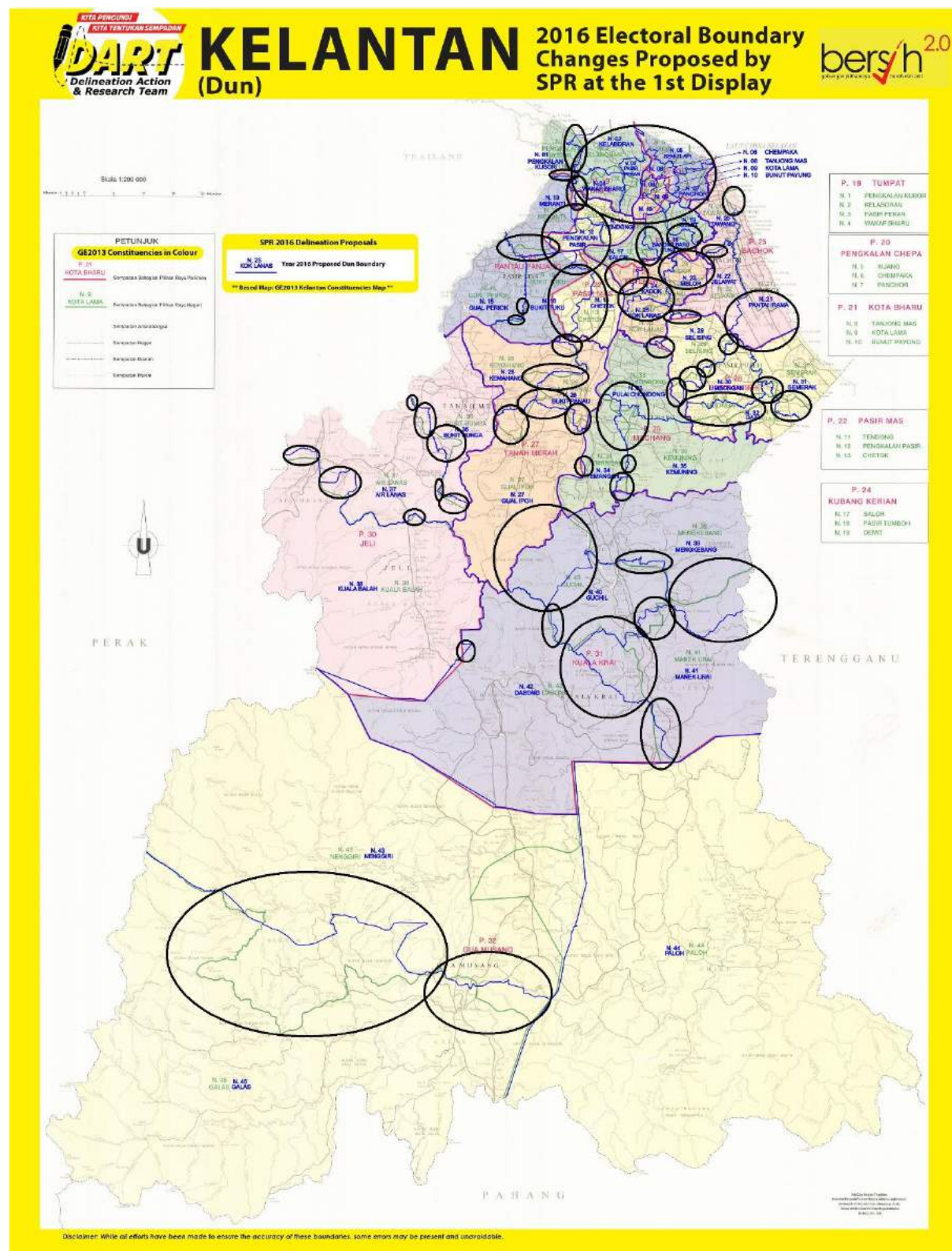
Source: Bersih 2.0 Delineation and Action Research Team, 2016
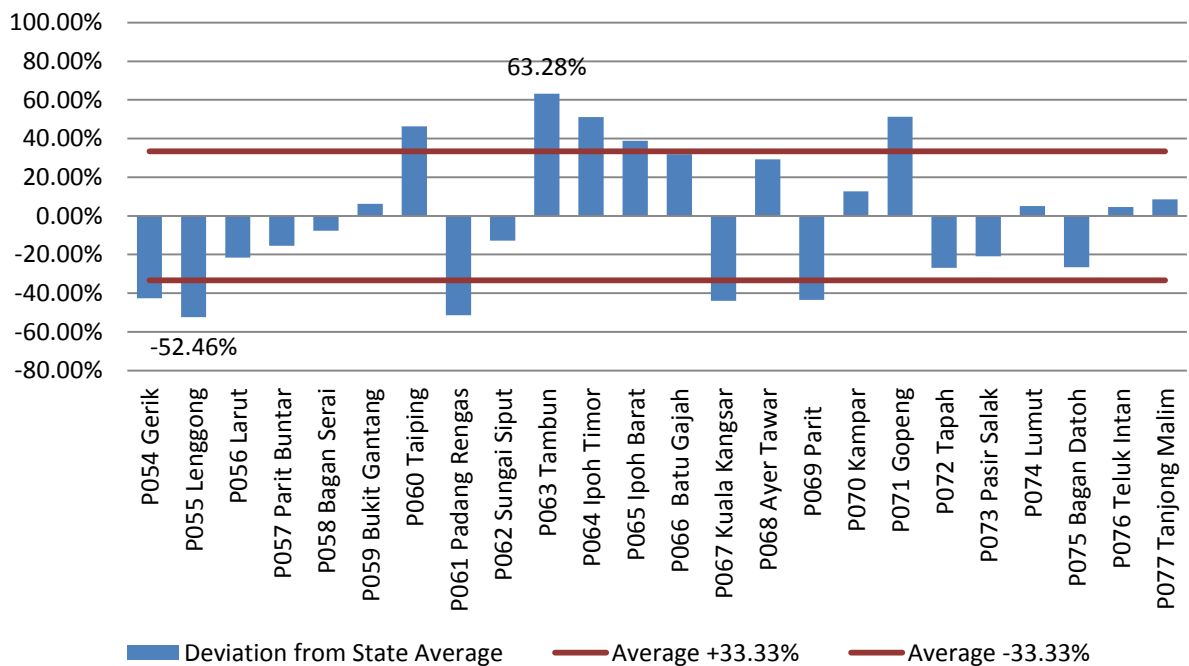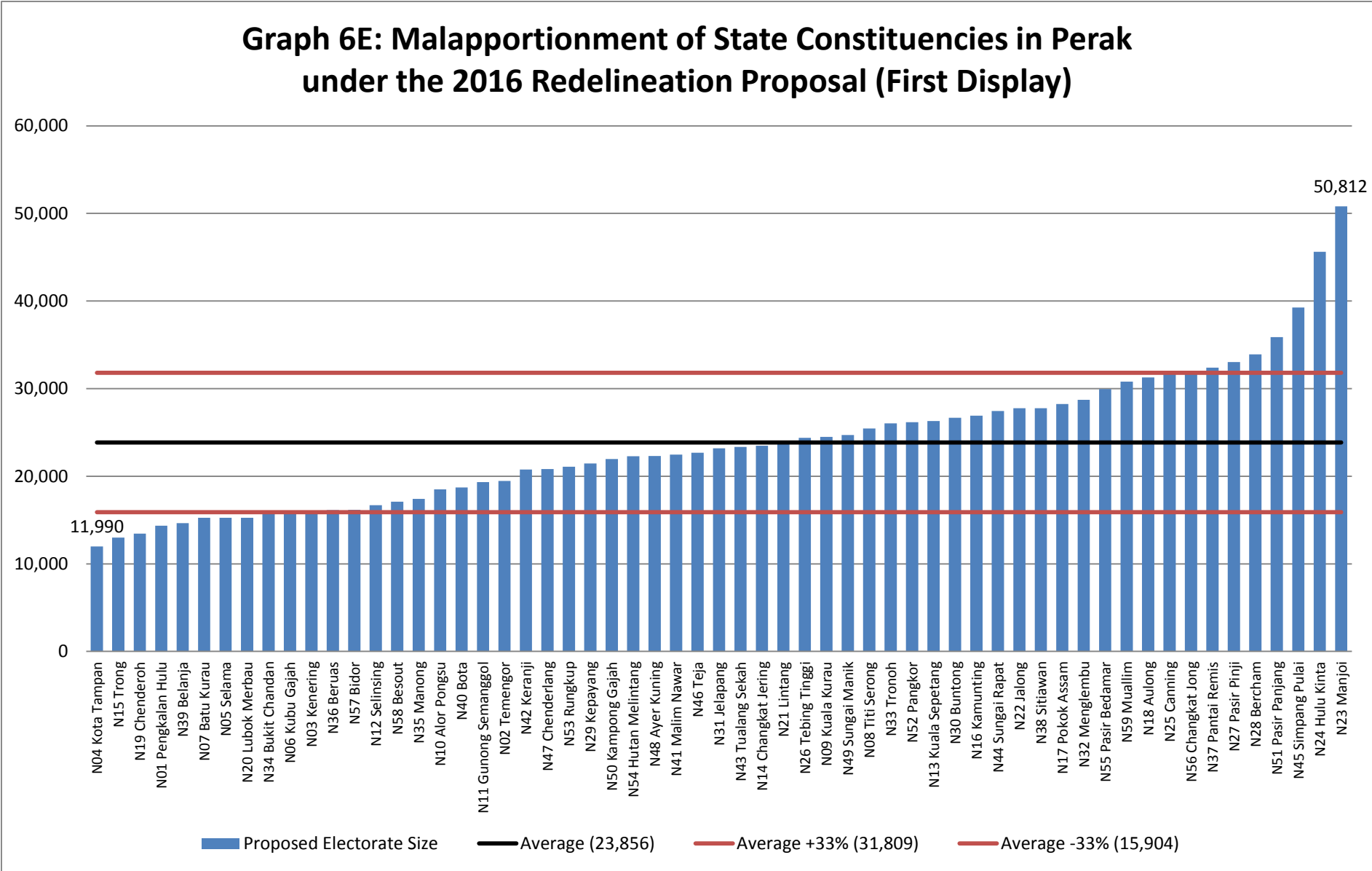
APPENDIX 4

Graph 4A: Malapportionment of Parliamentary Constituencies in Terengganu under the 2016 Redelineation Proposal (First Display)

Graph 4B: Malapportionment of Parliamentary Constituencies in Terengganu after the 2003 Redelineation Exercise (Measured as Deviation from the State Average)
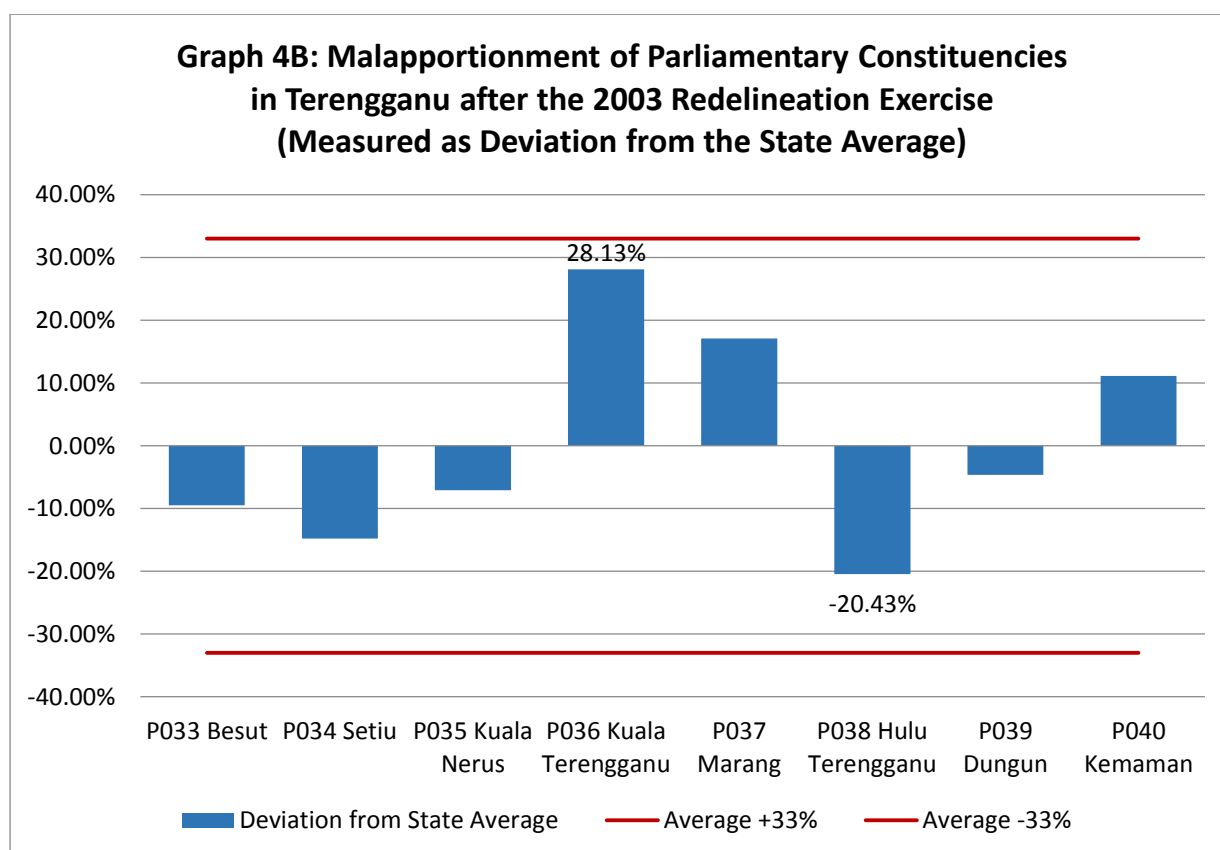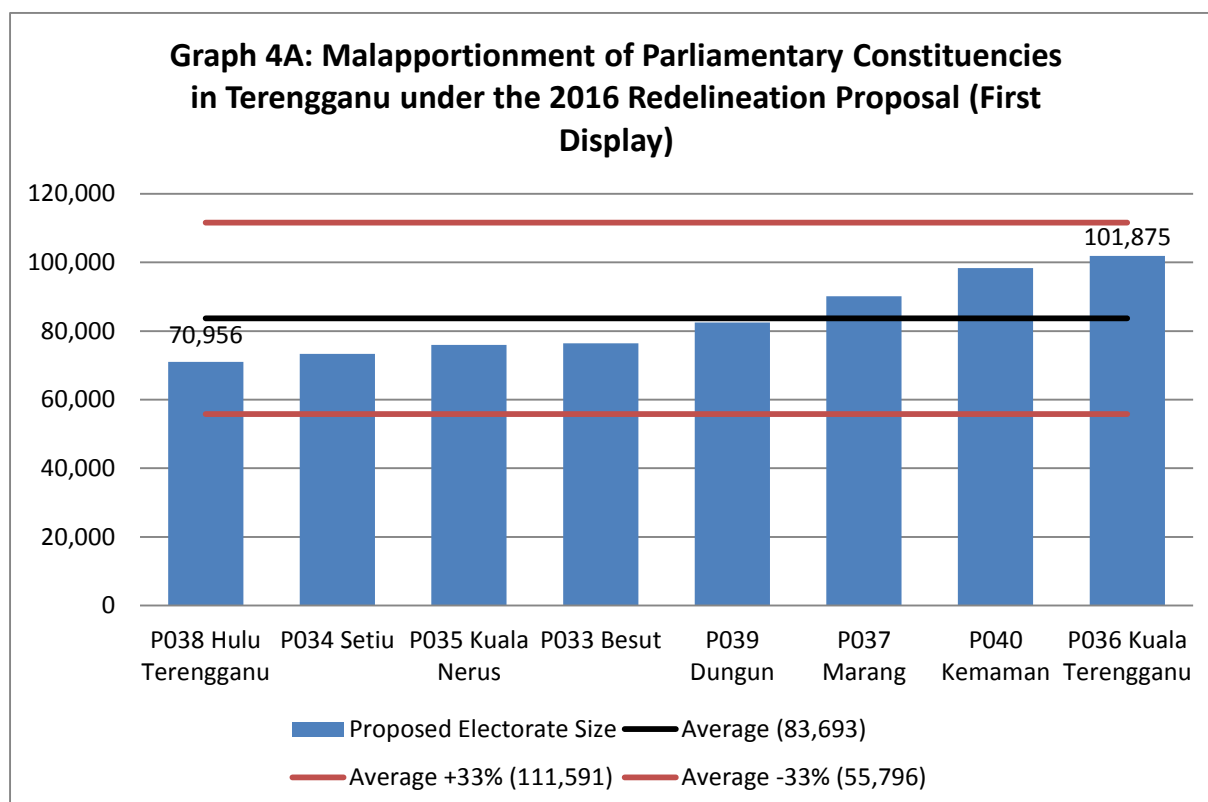
**Graph 4C: Malapportionment of Parliamentary Constituencies
in Terengganu during the 2013 General Election
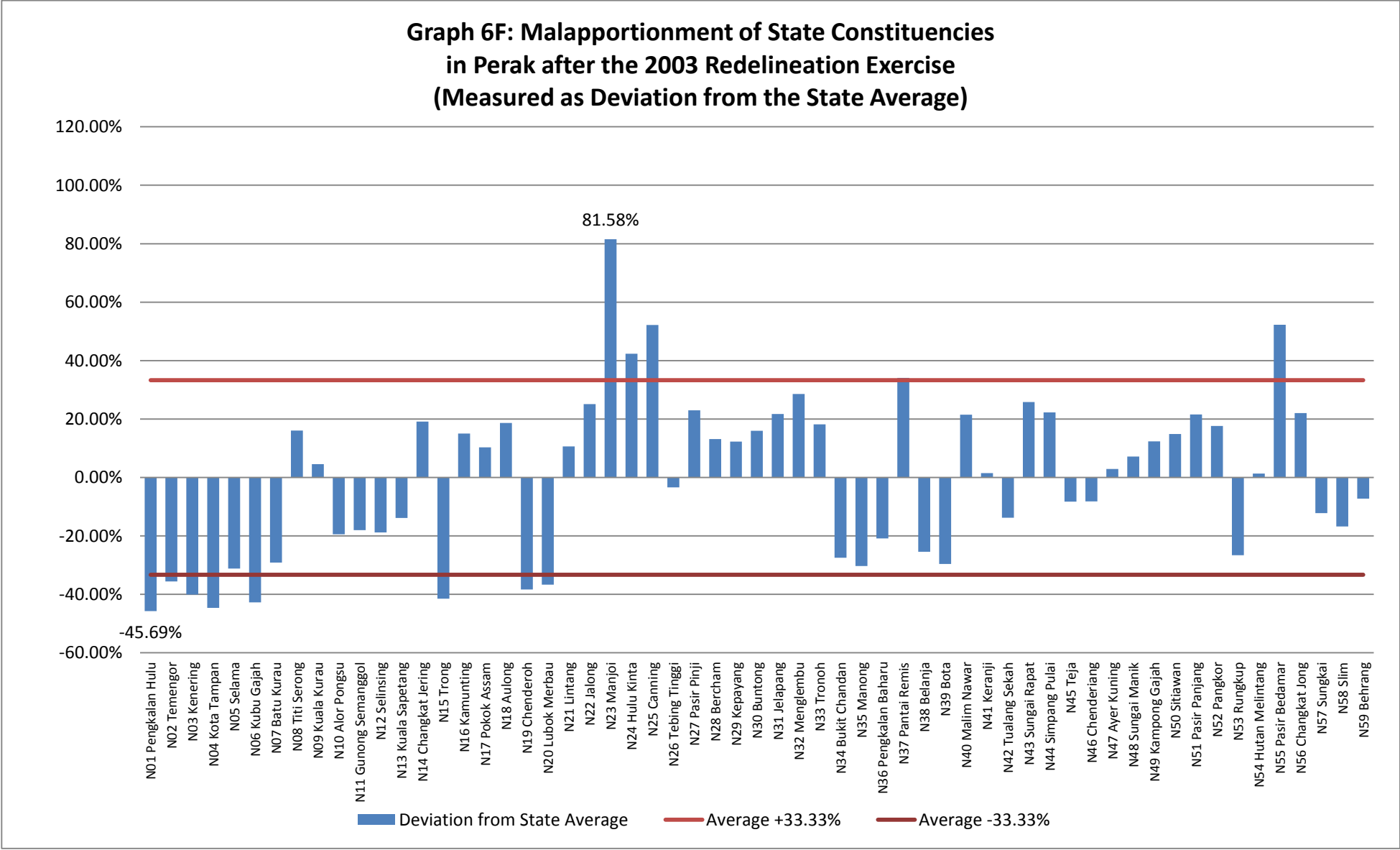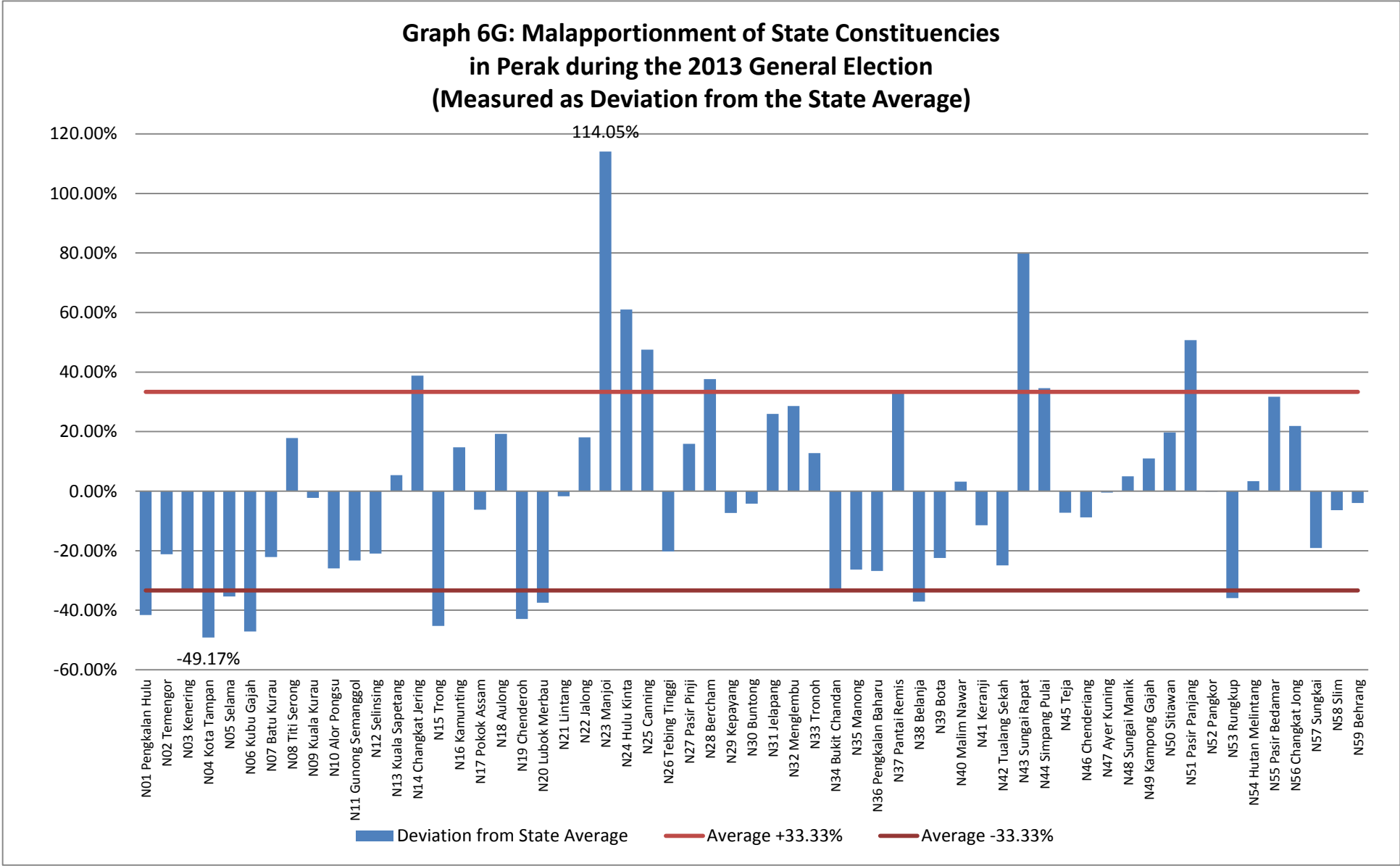(Measured as Deviation from the State Average)**
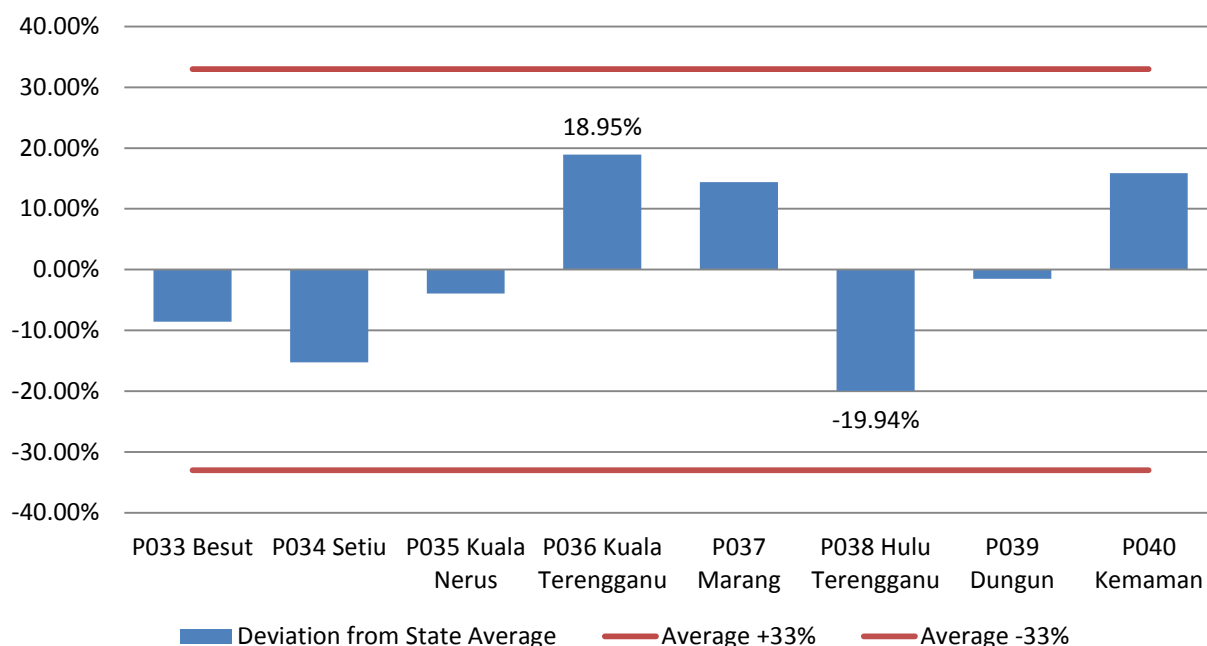
**Graph 4D: Malapportionment of Parliamentary Constituencies
in Terengganu under the 2016 Redelineation Proposal (First Display)
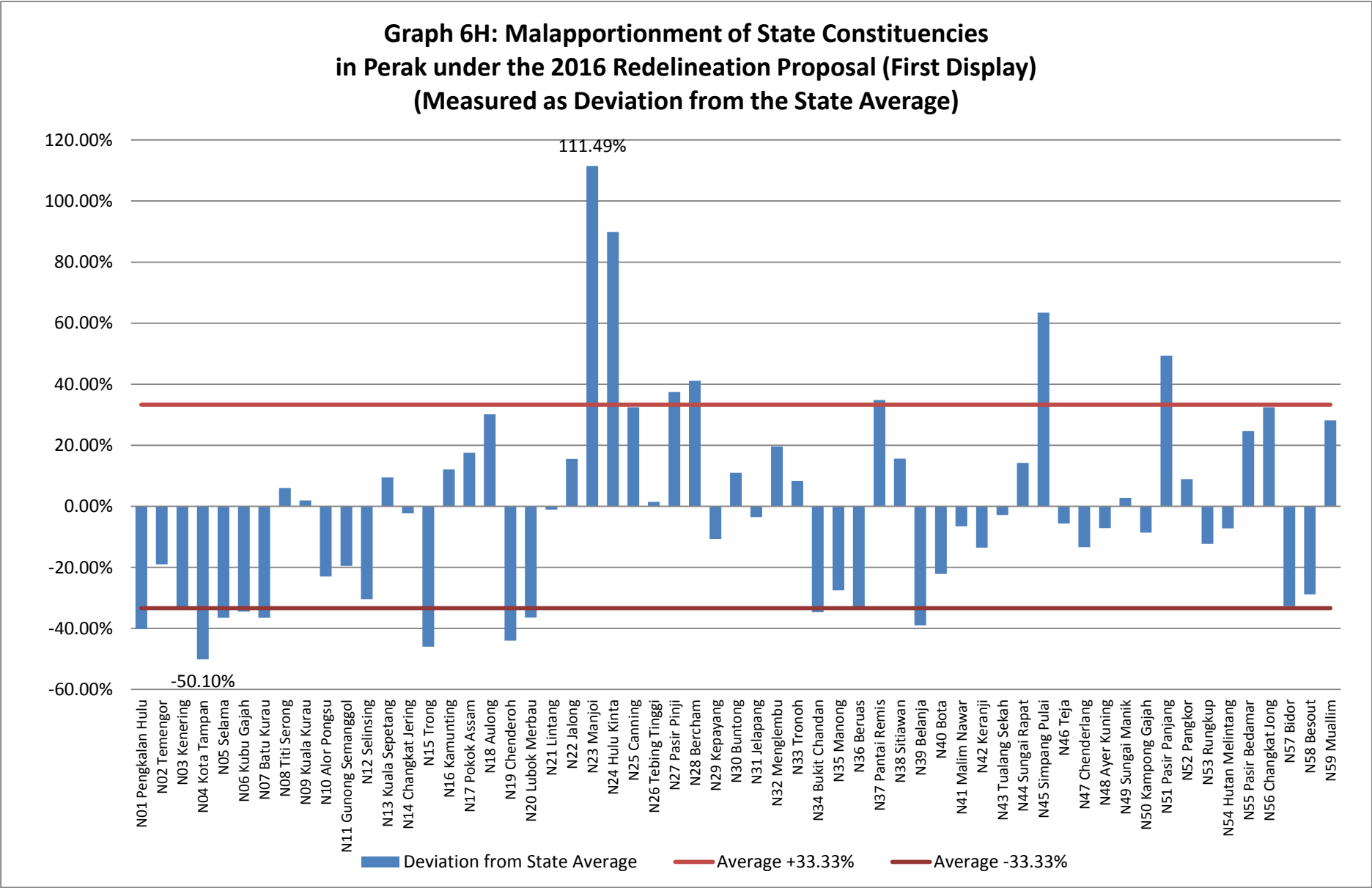(Measured as Deviation from the State Average)**

Graph 4E: Malapportionment of State Constituencies in Terengganu under the 2016 Redelineation Proposal (First Display)

Legend:
- Proposed Electorate Size
- Average (20,923)
- Average +33% (27,898)
- Average -33% (13,949)

Notable values: 12,557 (N25 Bukit Besi), 31,674 (N13 Wakaf Mempelam)

Graph 4F: Malapportionment of State Constituencies in Terengganu after the 2003 Redelineation Exercise (Measured as Deviation from the State Average)

Legend:
- Deviation from State Average
- Average +33%
- Average -33%

Notable values: 43.54% (N31 Cukai), -29.63% (N22 Manir)

Graph 4G: Malapportionment of State Constituencies in Terengganu during the 2013 General Election (Measured as Deviation from the State Average)

Graph 4H: Malapportionment of State Constituencies in Terengganu under the 2016 Redelineation Proposal (First Display) (Measured as Deviation from the State Average)
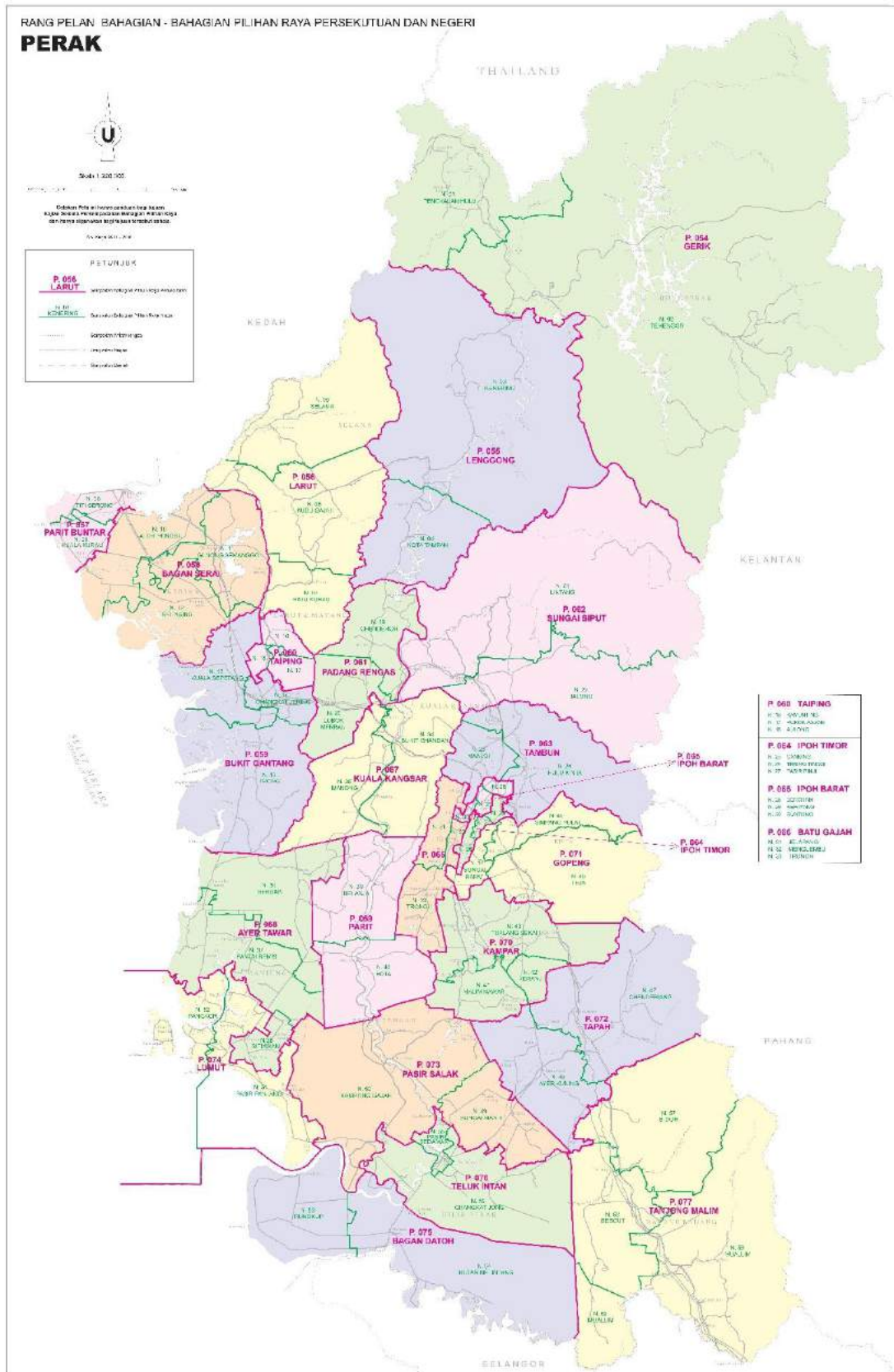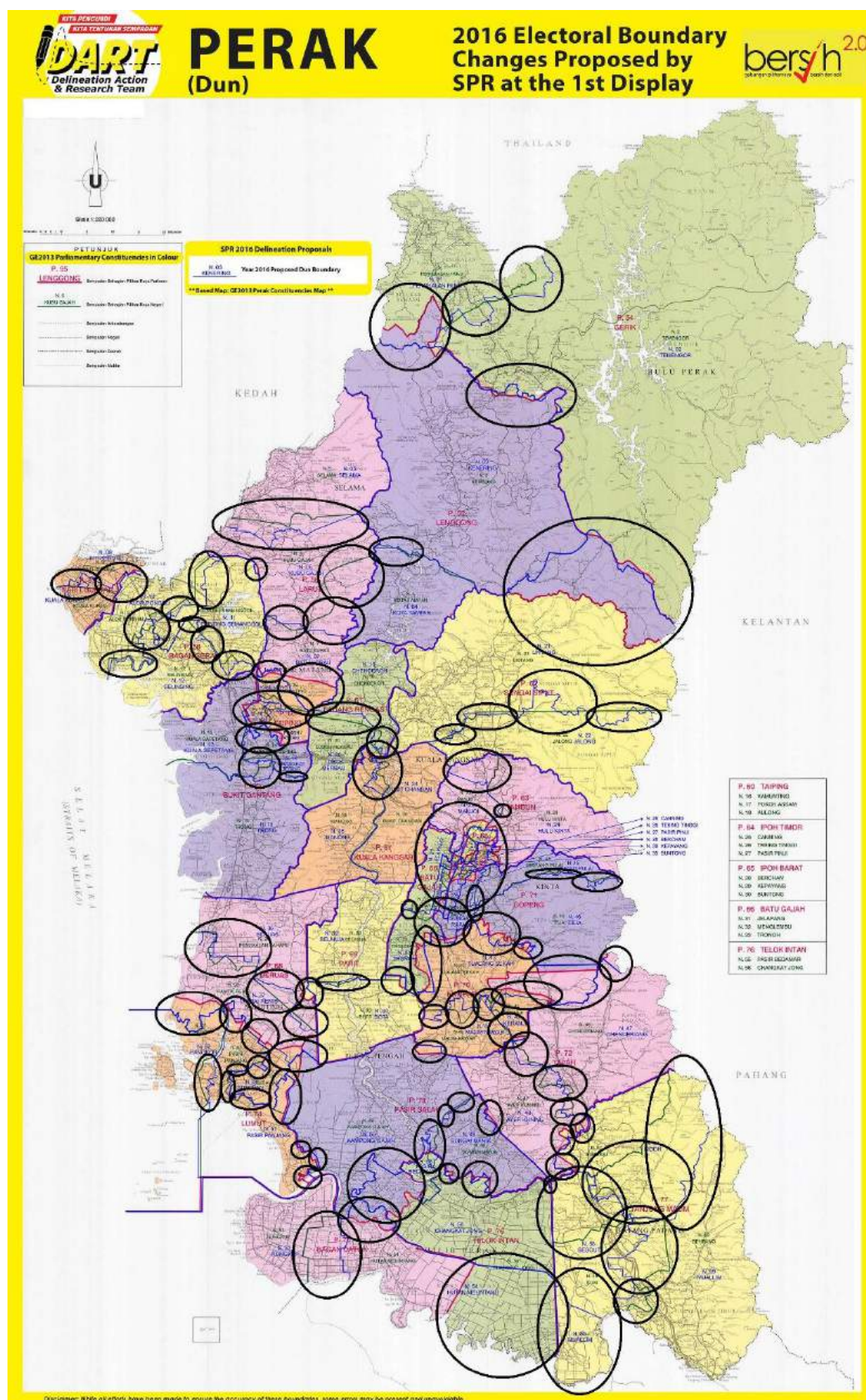
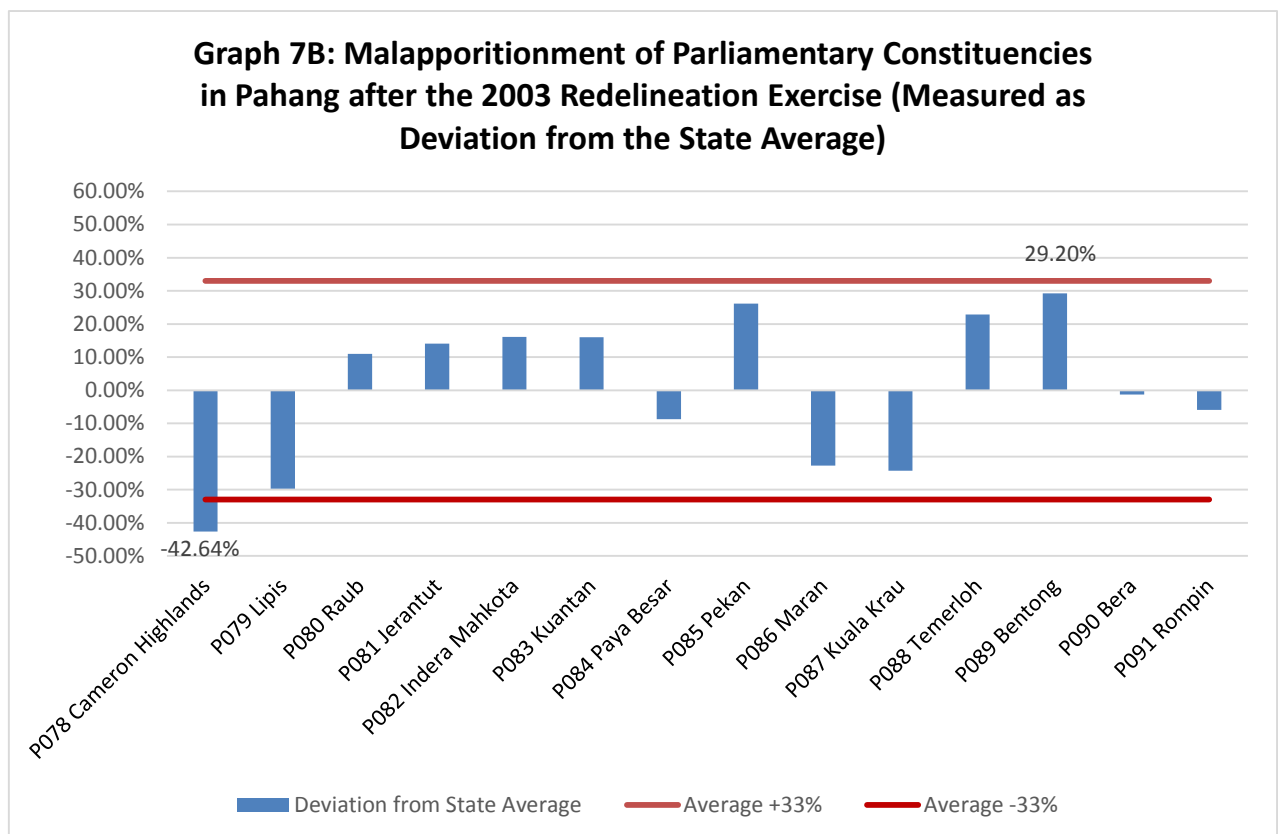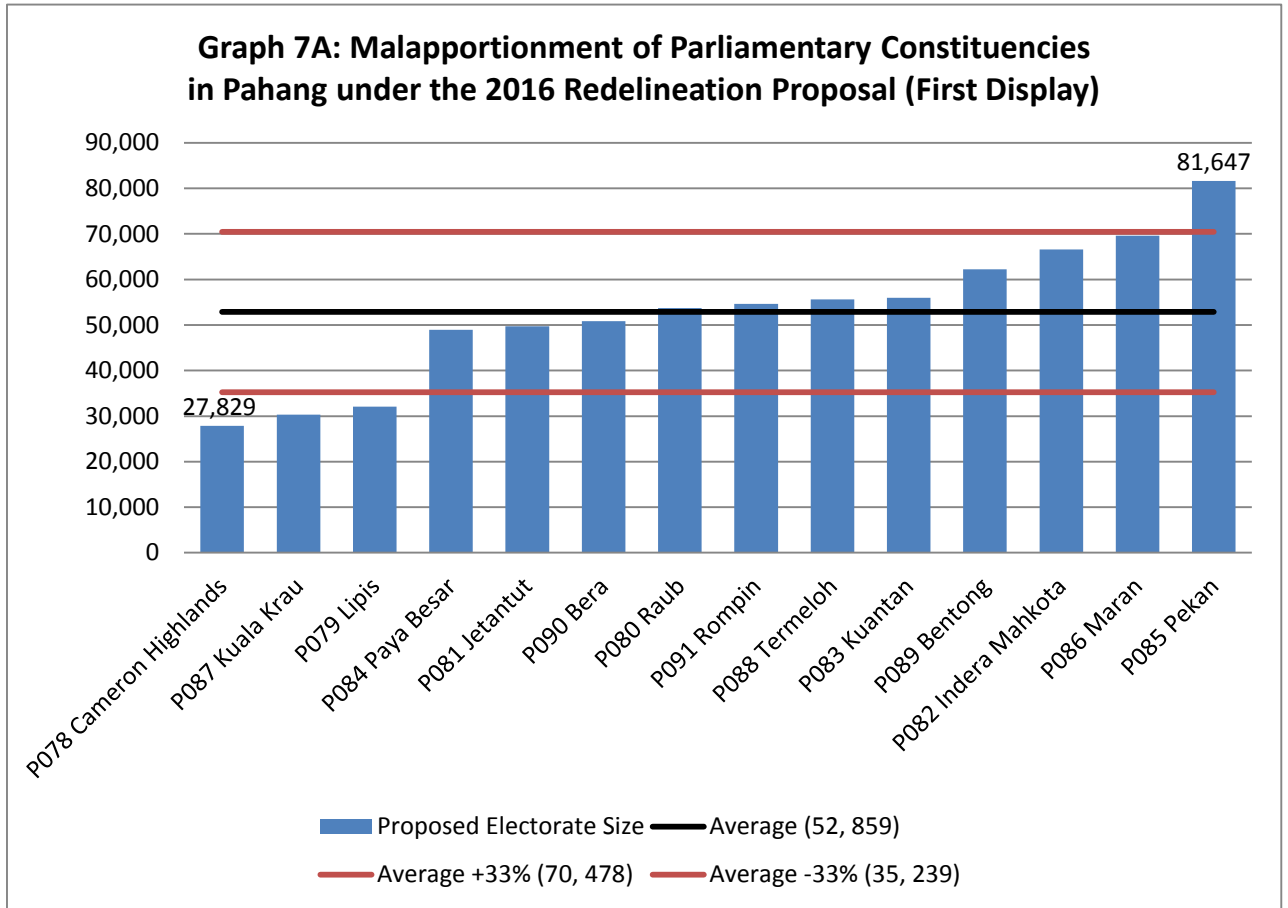**Map 4A: Draft Plan for Parliamentary and State Constituencies – Terengganu**
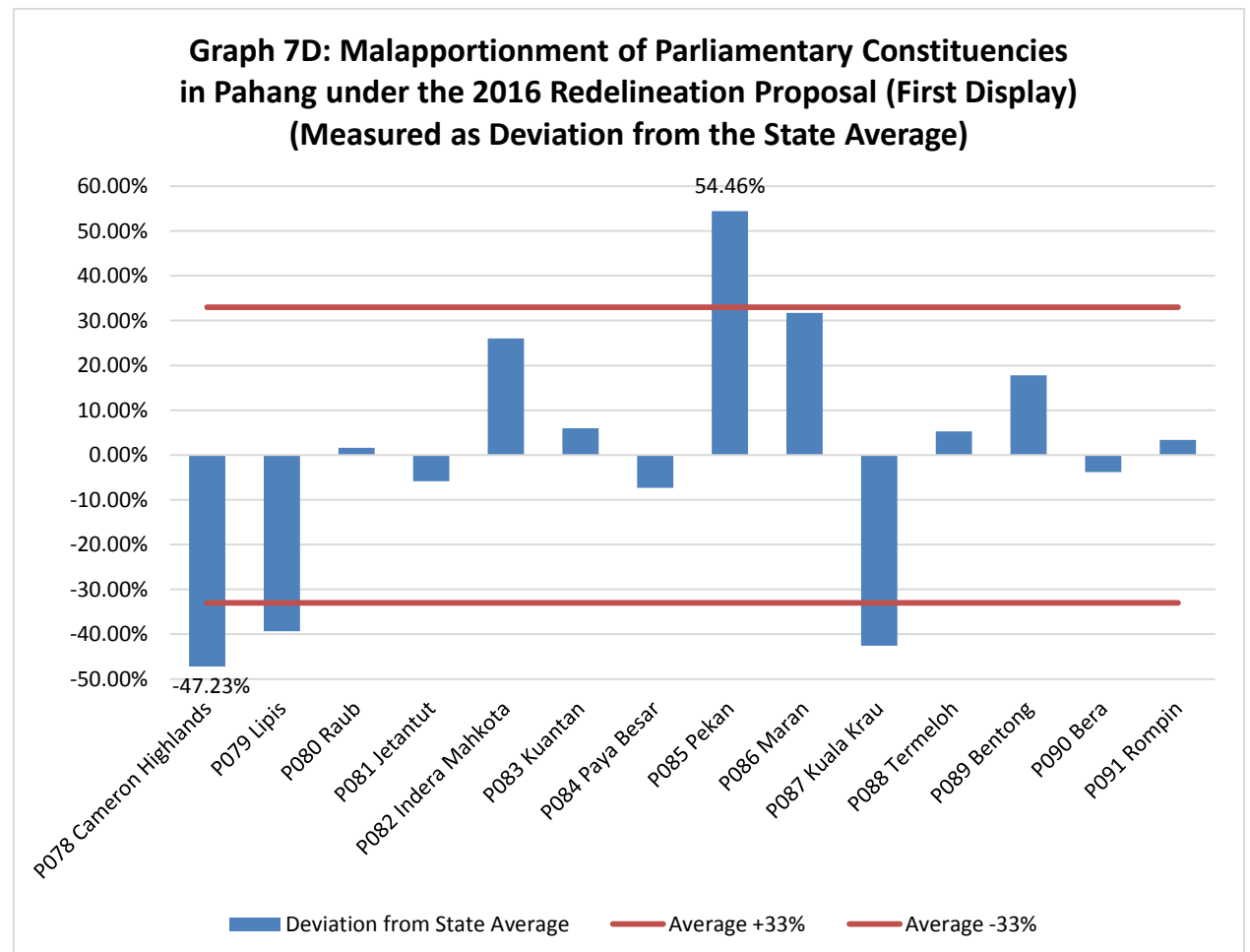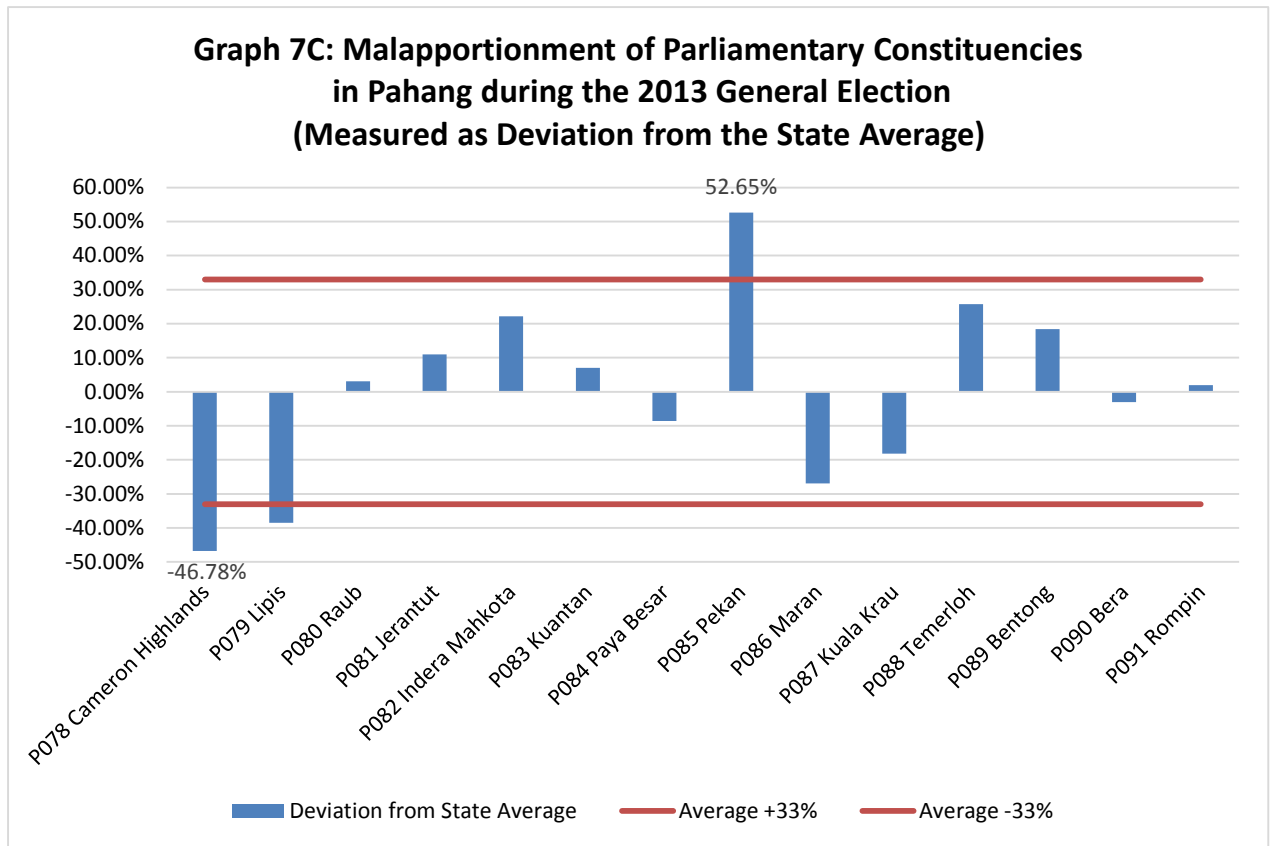
Map 4B: Identified and Suspected Boundary Changes for State Constituencies in Terengganu
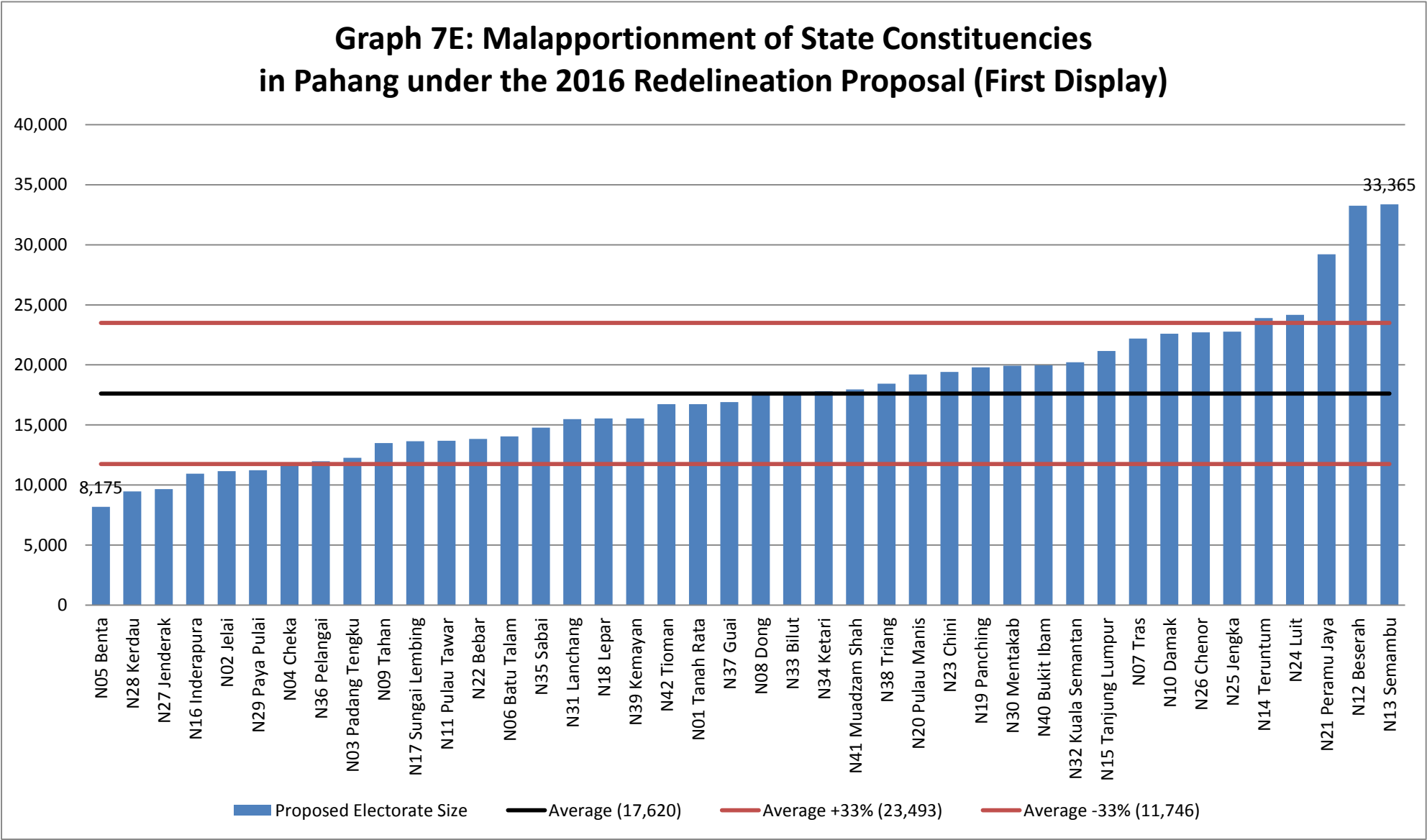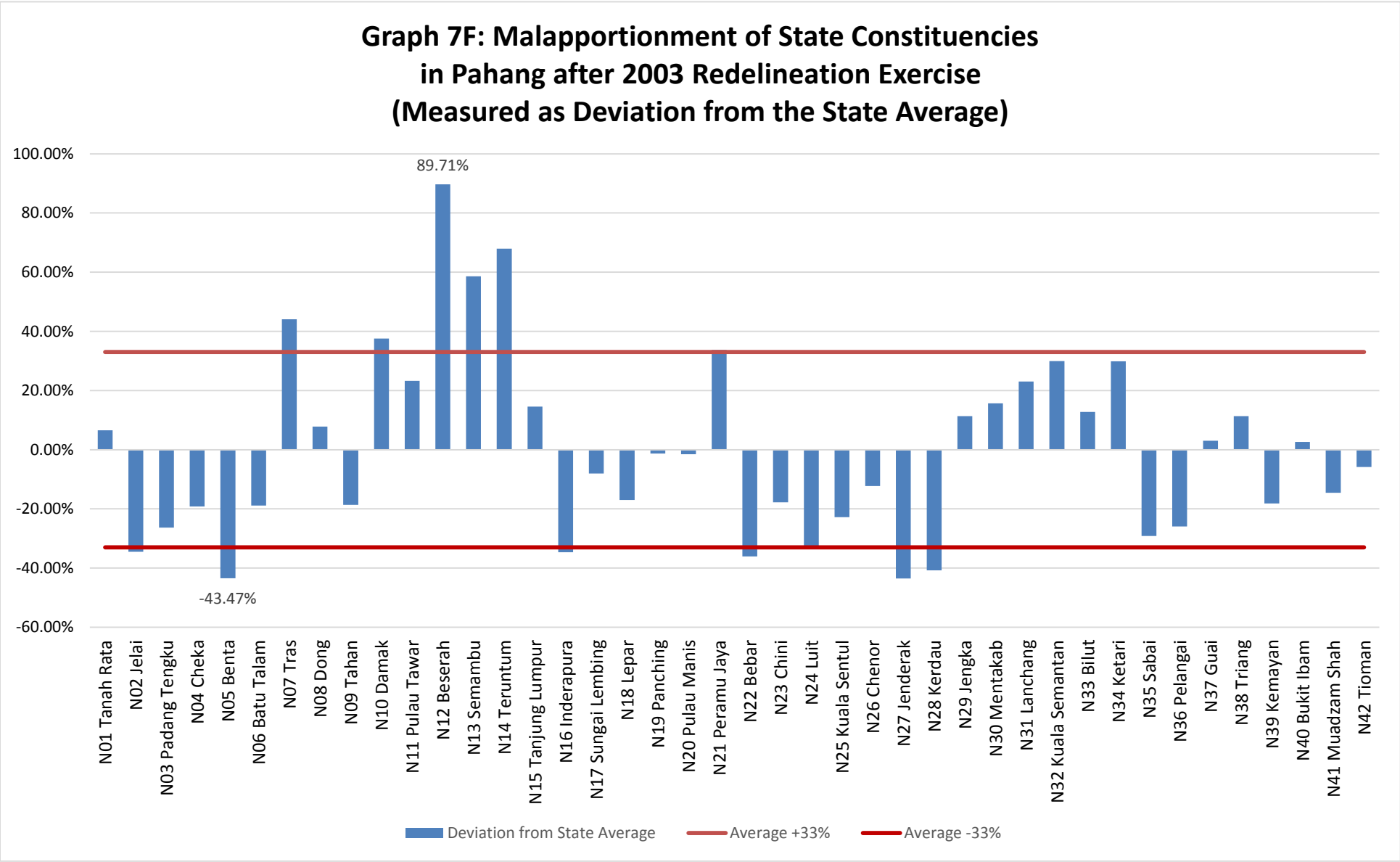

Source: Bersih 2.0 Delineation and Action Research Team, 2016

APPENDIX 5

Graph 5A: Malapportionment of Parliamentary Constituencies in Penang under the 2016 Redelineation Proposal (First Display)

Graph 5B Malapportionment of Parliamentary Constituencies in Penang after the 2003 Redelineation Exercise (Measured as Deviation from the State Average)

Graph 5C: Malapportionment of Parliamentary Constituencies in Penang during the 2013 General Election (Measured as Deviation from the State Average)

Graph 5D: Malapportionment of Parliamentary Constituencies in Penang under the 2016 Redelineation Proposal (First Display) (Measured as Deviation from the State Average)

Graph 5E: Malapportionment of State Constituencies in Penang under the 2016 Redelineation Proposal (First Display)

Graph 5F: Malapportionment of State Constituencies in Penang after the 2003 Redelineation Exercise (Measured as Deviation from the State Average)

Graph 5G: Malapportionment of State Constituencies
in Penang during the 2013 General Election
(Measured as Deviation from the State Average)

Graph 5H: Malapportionment of State Constituencies
in Penang under the 2016 Redelineation Proposal (First Display)
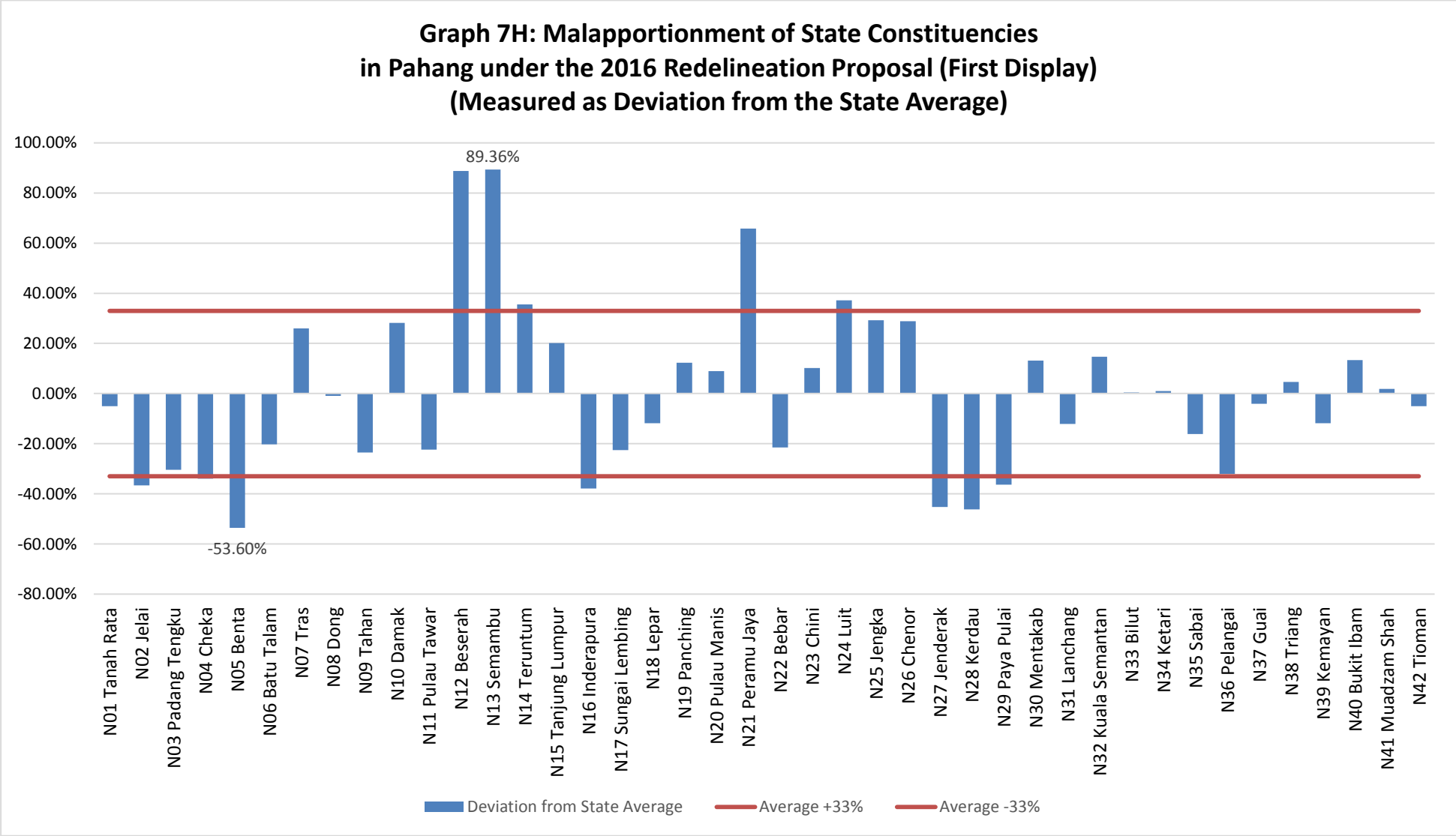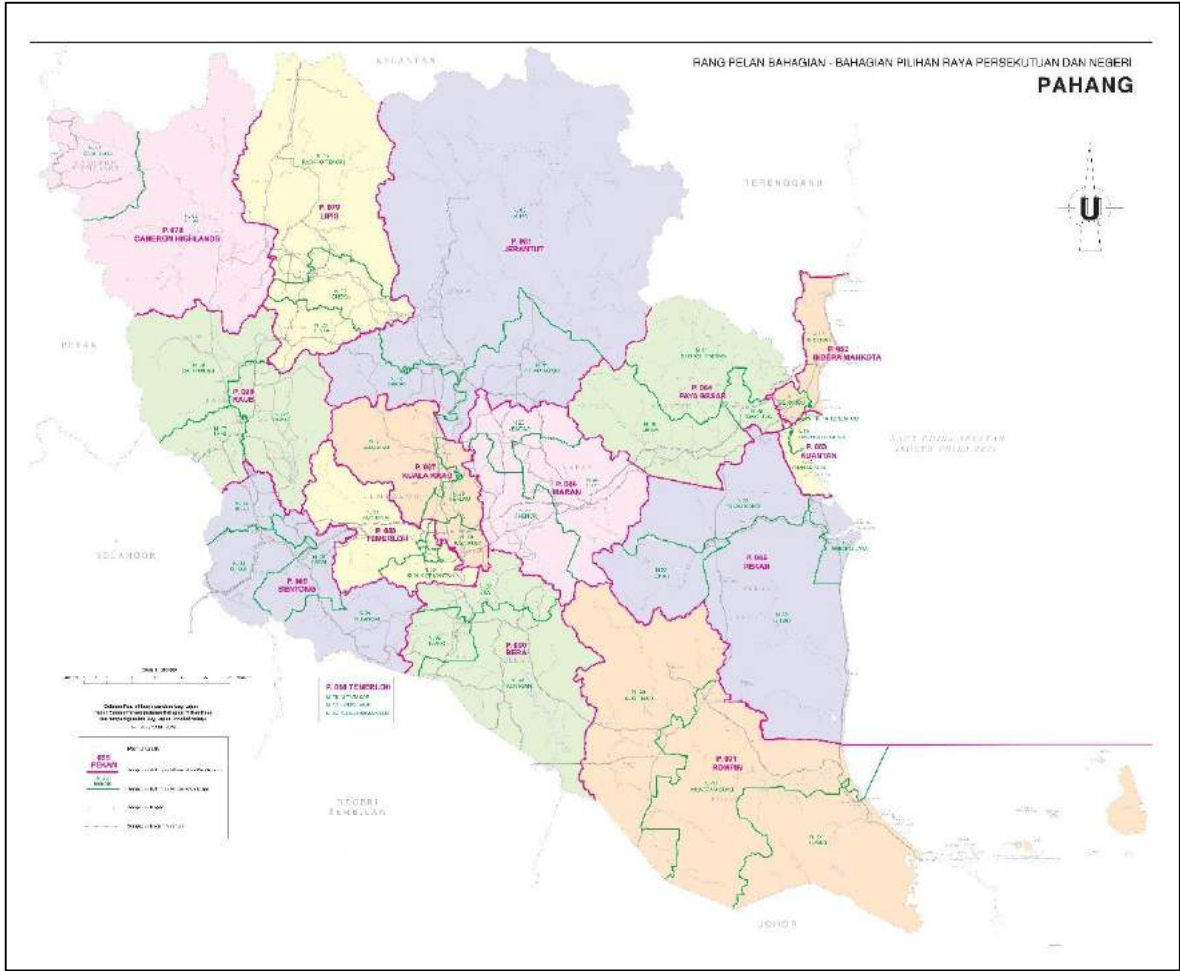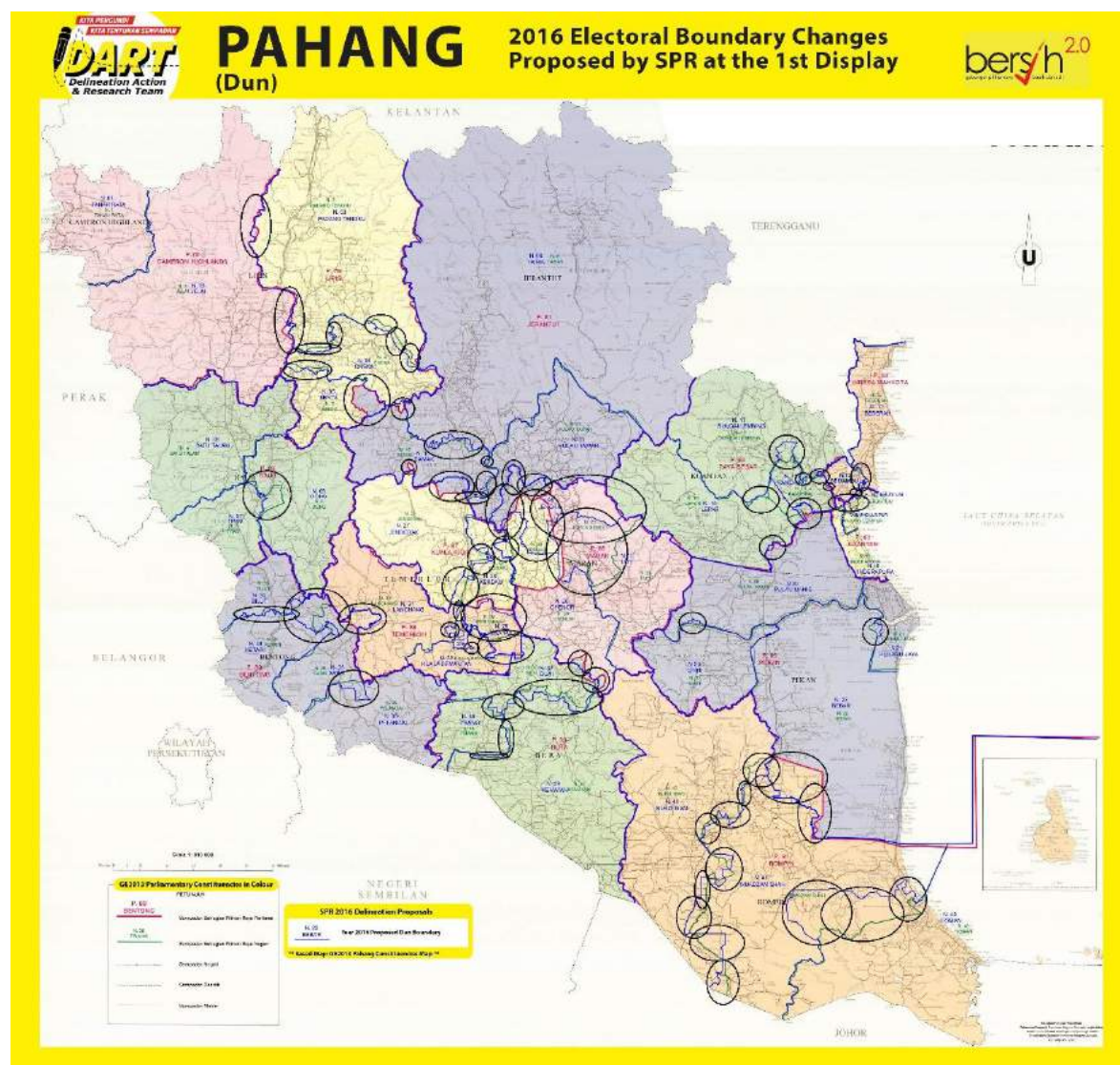(Measured as Deviation from the State Average)

Map 5A: Draft Plan for Parliamentary and State Constituencies – Penang
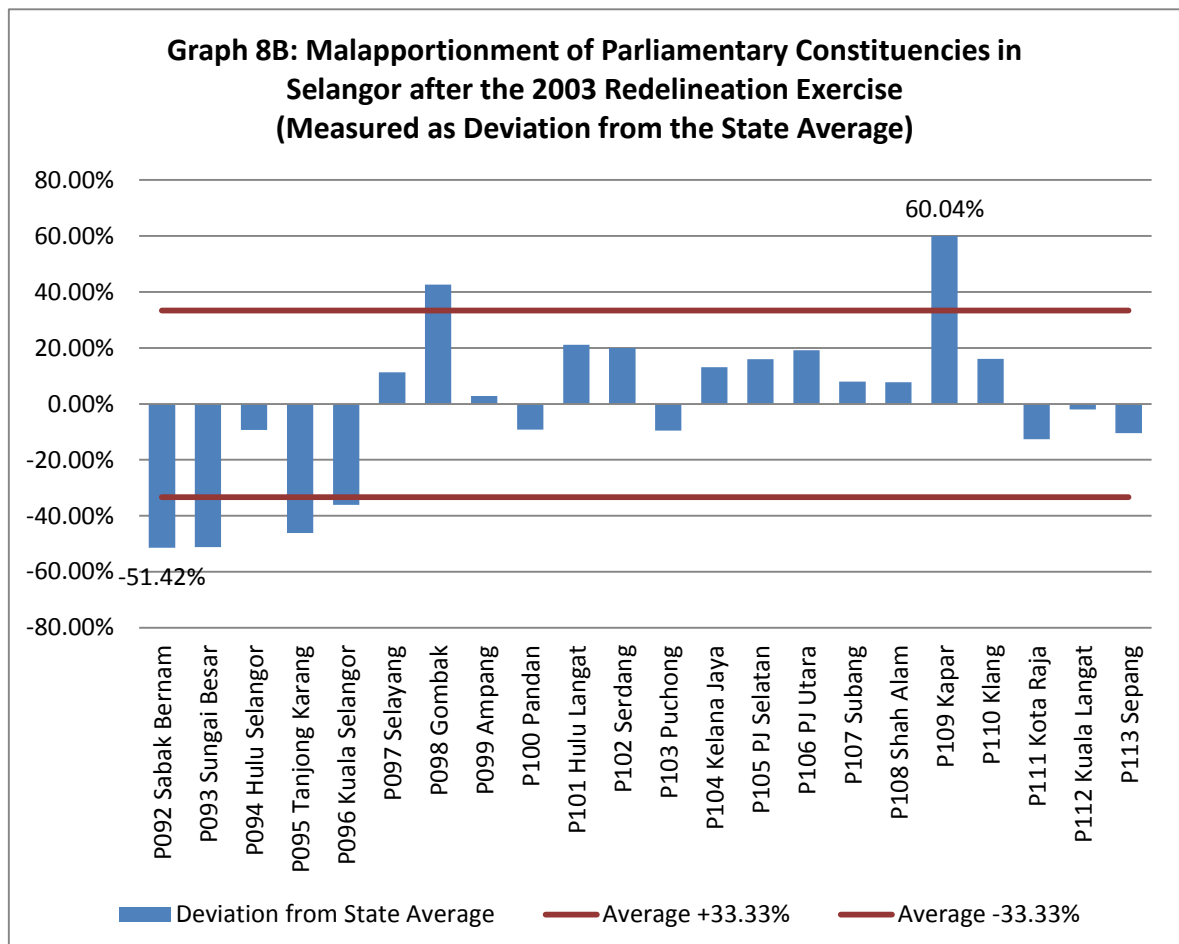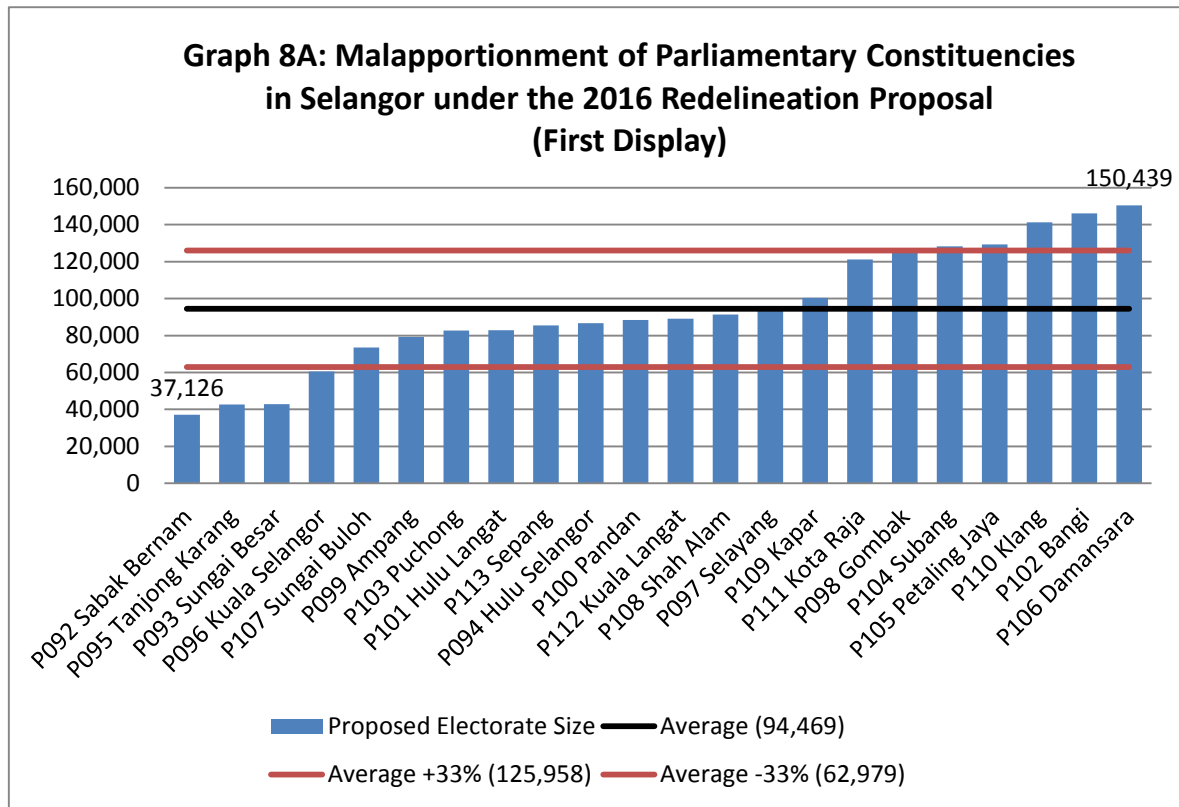
Map 5B: Identified and Suspected Boundary Changes for State Constituencies in Penang

Source: Bersih 2.0 Redelineation and Action Research Thing

APPENDIX 6

Graph 6A: Malapportionment of Parliamentary Constituencies in Perak under the 2016 Redelineation Proposal (First Display)

Legend:
- Proposed Electorate Size
- Average (58,647)
- Average +33% (78,196)
- Average -33% (39,098)

Graph 6B: Malapportionment of Parliamentary Constituencies in Perak after the 2003 Redelineation Exercise (Measured as Deviation from the State Average)

51.22%

-53.10%

Legend:
- Deviation from State Average
- Average +33.33%
- Average -33.33%

Graph 6C: Malapportionment of Parliamentary Constituencies in Perak during the 2013 General Election (Measured as Deviation from the State Average)

Graph 6D: Malapportionment of Parliamentary Constituencies in Perak under the 2016 Redelineation Proposal (First Display) (Measured as Deviation from the State Average)

Graph 6E: Malapportionment of State Constituencies in Perak under the 2016 Redelineation Proposal (First Display)

Legend:
- Proposed Electorate Size
- Average (23,856)
- Average +33% (31,809)
- Average -33% (15,904)

Notable values: 11,990 (N04 Kota Tampan); 50,812 (N23 Manjoi)

Graph 6F: Malapportionment of State Constituencies
in Perak after the 2003 Redelineation Exercise
(Measured as Deviation from the State Average)

Graph 6G: Malapportionment of State Constituencies in Perak during the 2013 General Election (Measured as Deviation from the State Average)

**Graph 6H: Malapportionment of State Constituencies
in Perak under the 2016 Redelineation Proposal (First Display)
(Measured as Deviation from the State Average)**

Map 6A: Draft Plan for Parliamentary and State Constituencies – Perak

Map 7B: Identified and Suspected Boundary Changes for State Constituencies in Perak

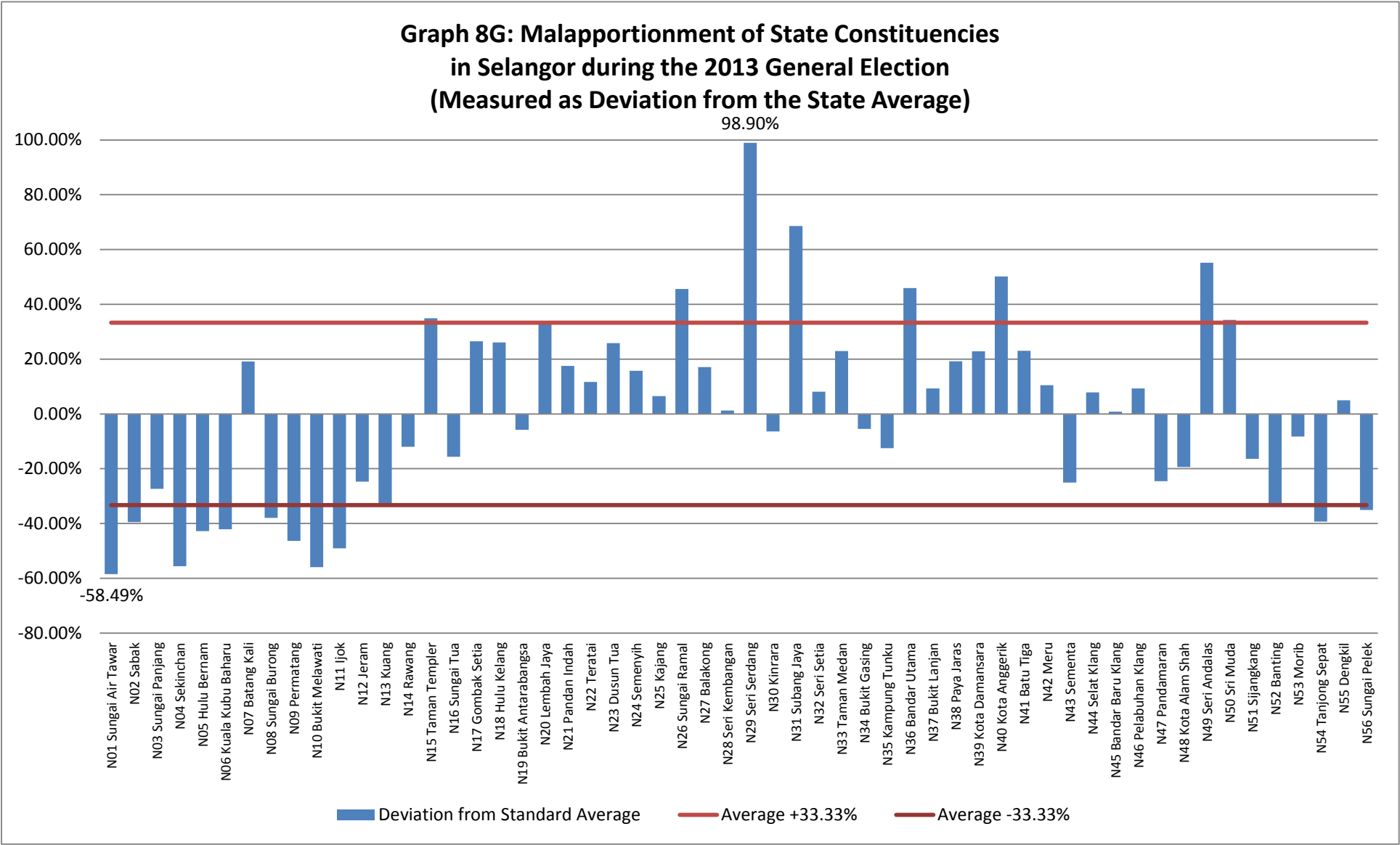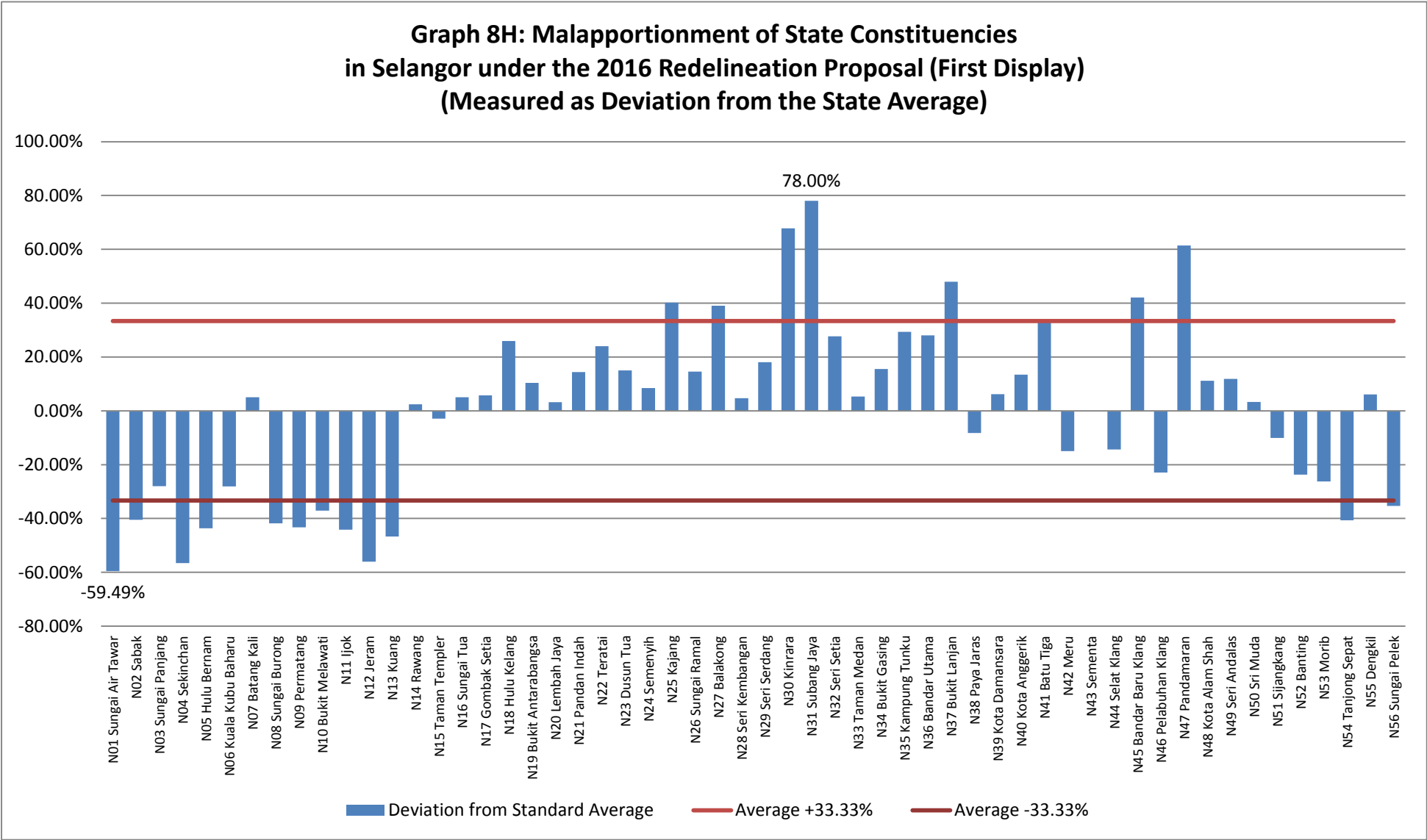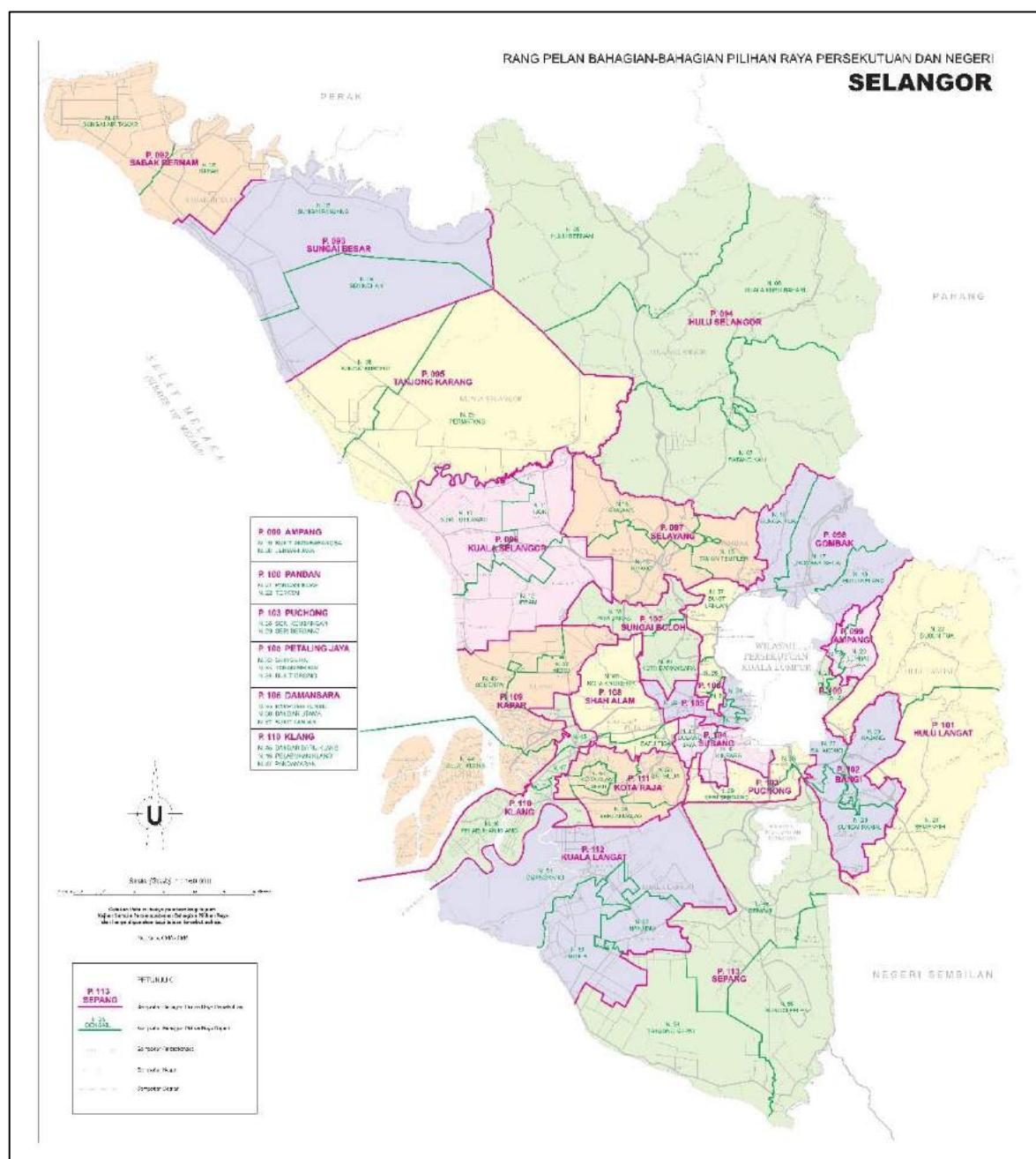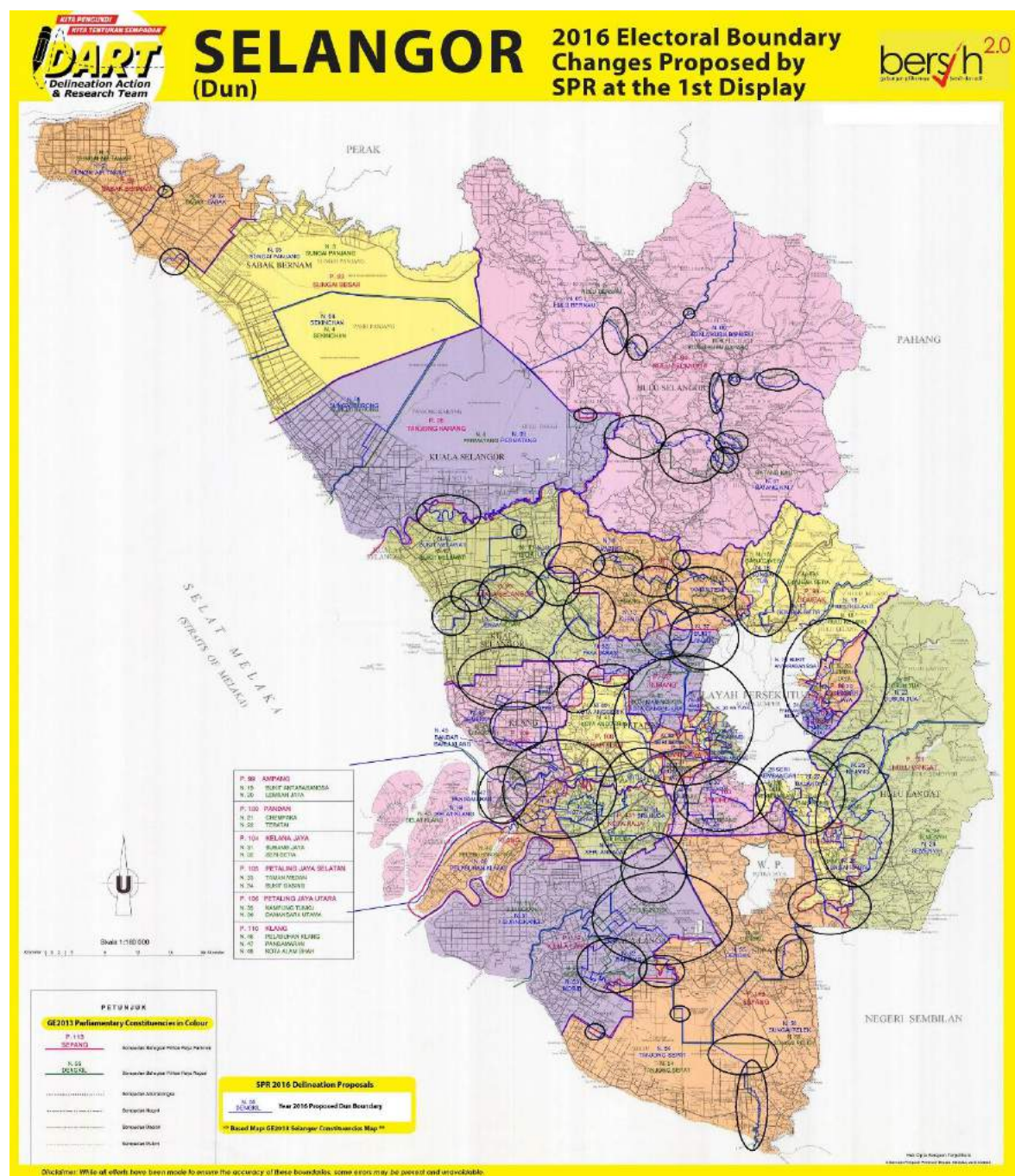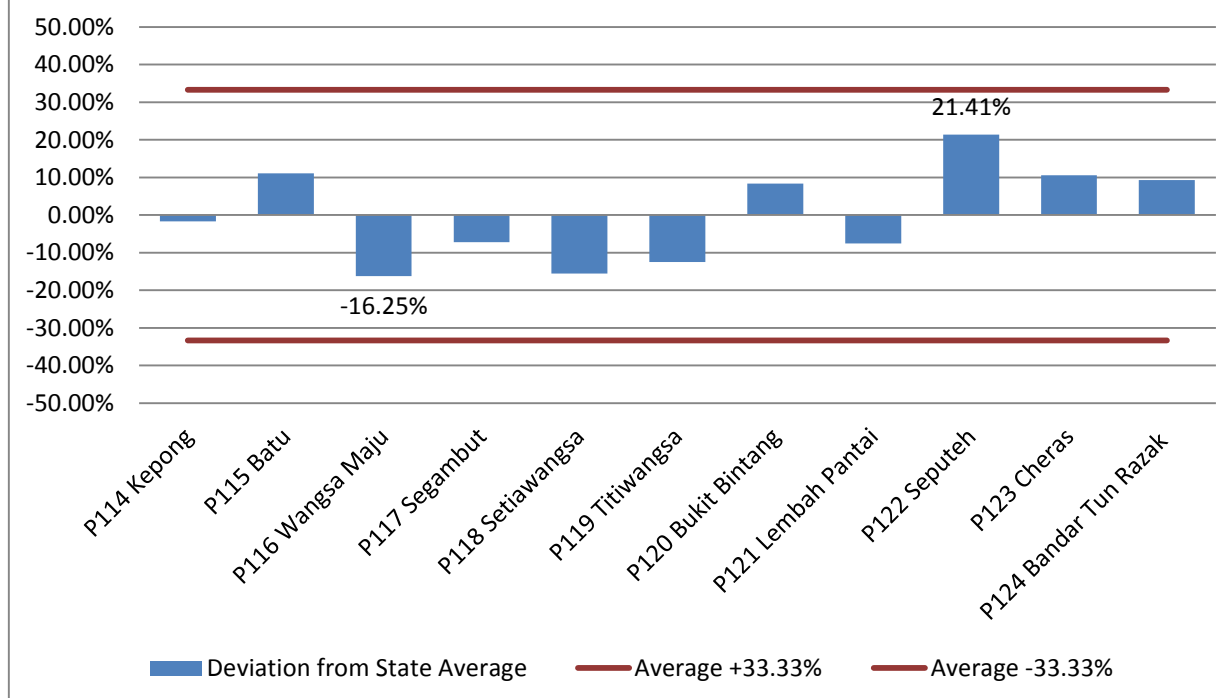*Source: Bersih 2.0 Redelineation and Action Research Team, 2016*

APPENDIX 7

Graph 7A: Malapportionment of Parliamentary Constituencies in Pahang under the 2016 Redelineation Proposal (First Display)

Graph 7B: Malapportionment of Parliamentary Constituencies in Pahang after the 2003 Redelineation Exercise (Measured as Deviation from the State Average)

Graph 7C: Malapportionment of Parliamentary Constituencies in Pahang during the 2013 General Election (Measured as Deviation from the State Average)

52.65%

-46.78%

Legend: Deviation from State Average | Average +33% | Average -33%

Graph 7D: Malapportionment of Parliamentary Constituencies in Pahang under the 2016 Redelineation Proposal (First Display) (Measured as Deviation from the State Average)

54.46%

-47.23%

Legend: Deviation from State Average | Average +33% | Average -33%

Graph 7E: Malapportionment of State Constituencies in Pahang under the 2016 Redelineation Proposal (First Display)

Graph 7F: Malapportionment of State Constituencies
in Pahang after 2003 Redelineation Exercise
(Measured as Deviation from the State Average)

Graph 7G: Malapportionment of State Constituencies in Pahang during the 2013 General Election (Measured as Deviation from the State Average)

Graph 7H: Malapportionment of State Constituencies
in Pahang under the 2016 Redelineation Proposal (First Display)
(Measured as Deviation from the State Average)

Map 7A: Draft Plan for Parliamentary and State Constituencies – Pahang

Map 7B: Identified and Suspected Boundary Changes for State Constituencies in Pahang

Source: Bersih 2.0 Redelineation and Action Research Team, 2016

APPENDIX 8

Graph 8A: Malapportionment of Parliamentary Constituencies in Selangor under the 2016 Redelineation Proposal (First Display)

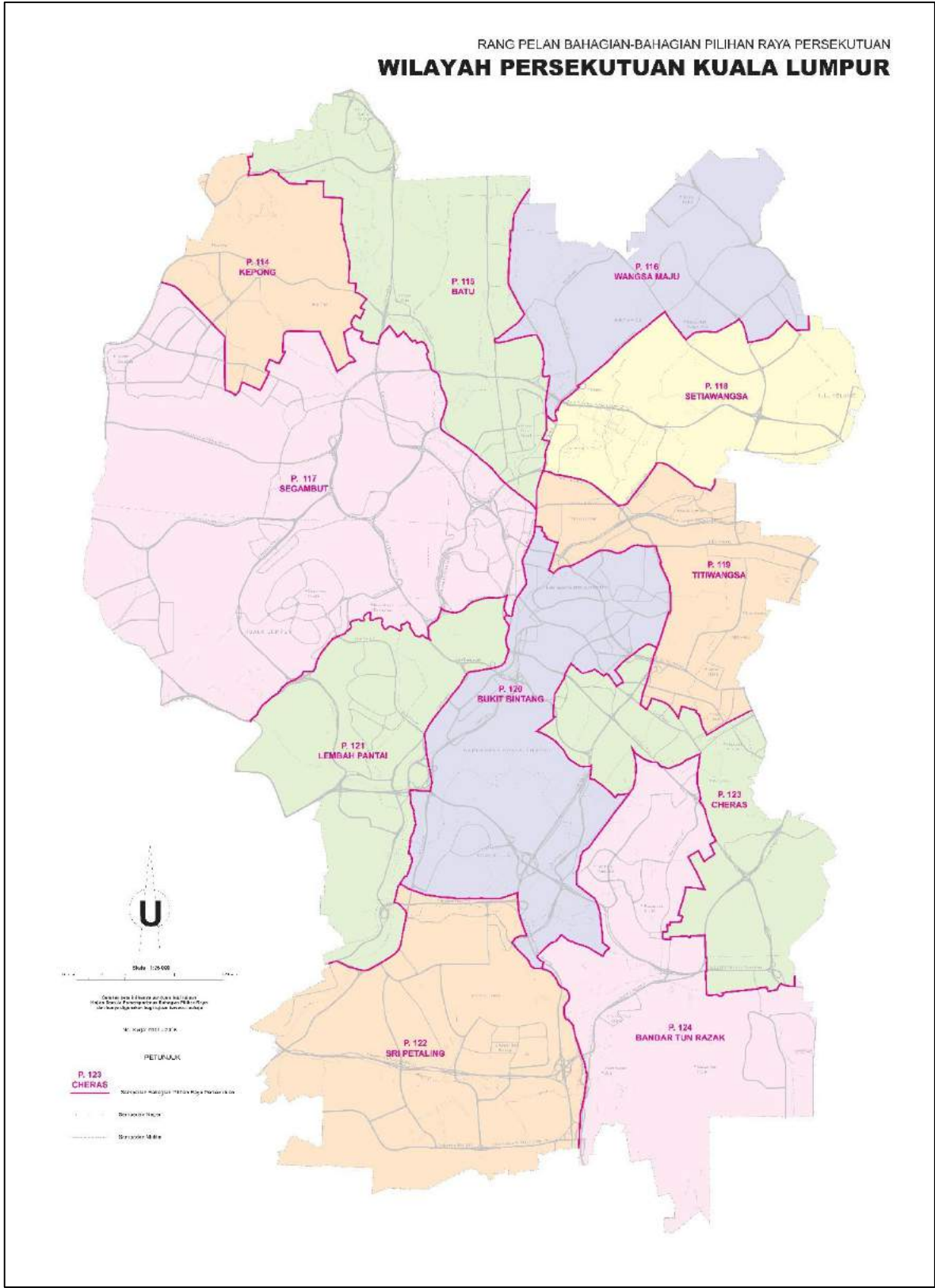### Graph 8B: Malapportionment of Parliamentary Constituencies in Selangor after the 2003 Redelineation Exercise (Measured as Deviation from the State Average)

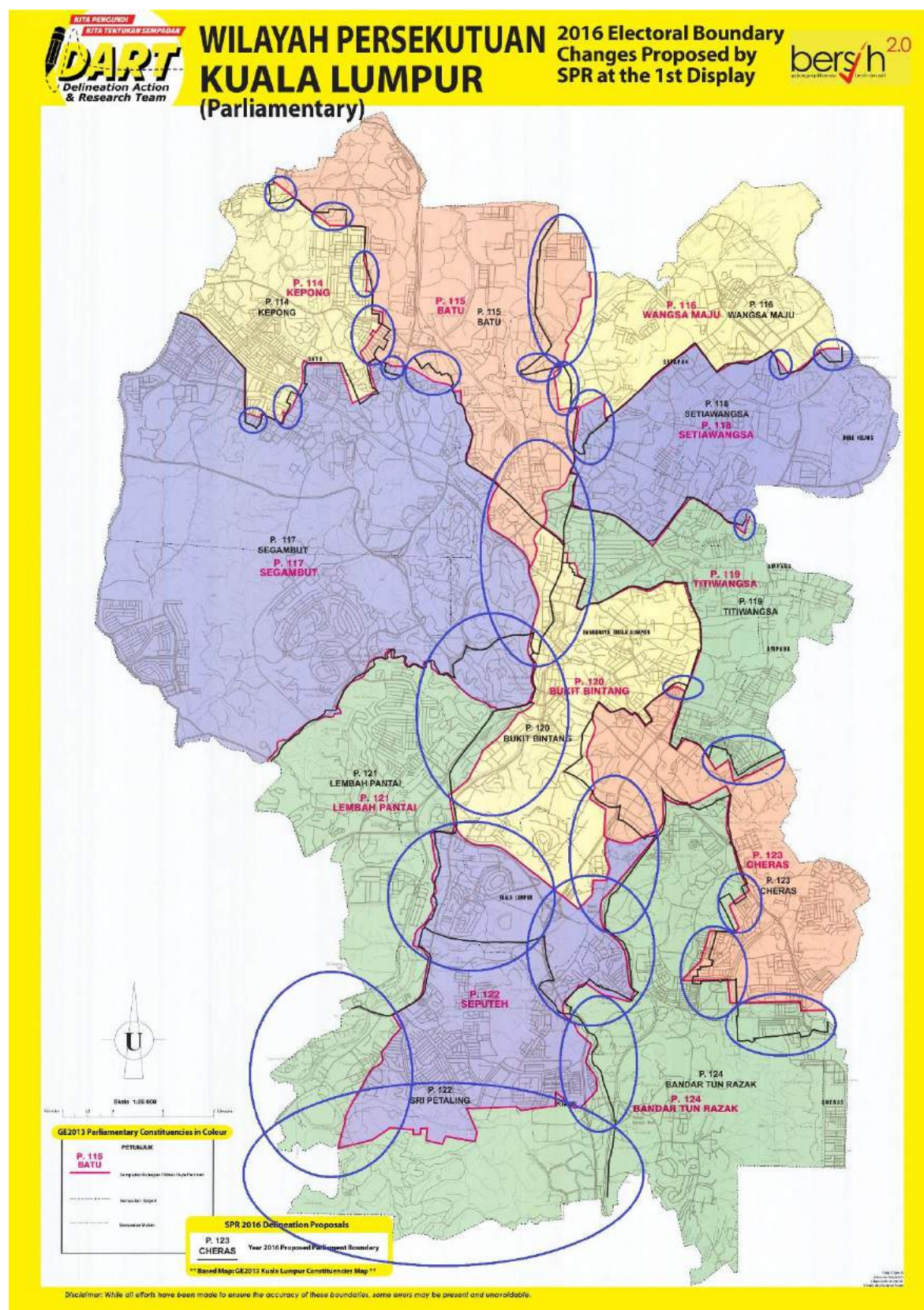Graph 8C: Malapportionment of Parliamentary Constituencies in Selangor during the 2013 General Election (Measured as Deviation from the State Average)
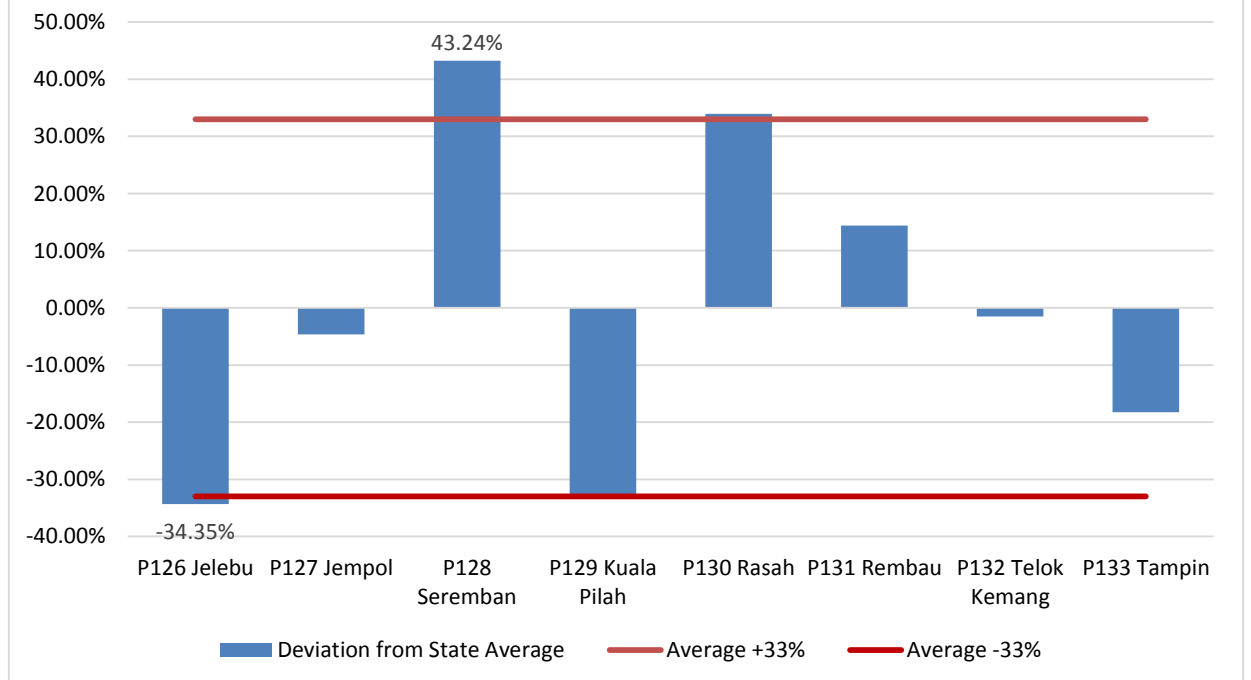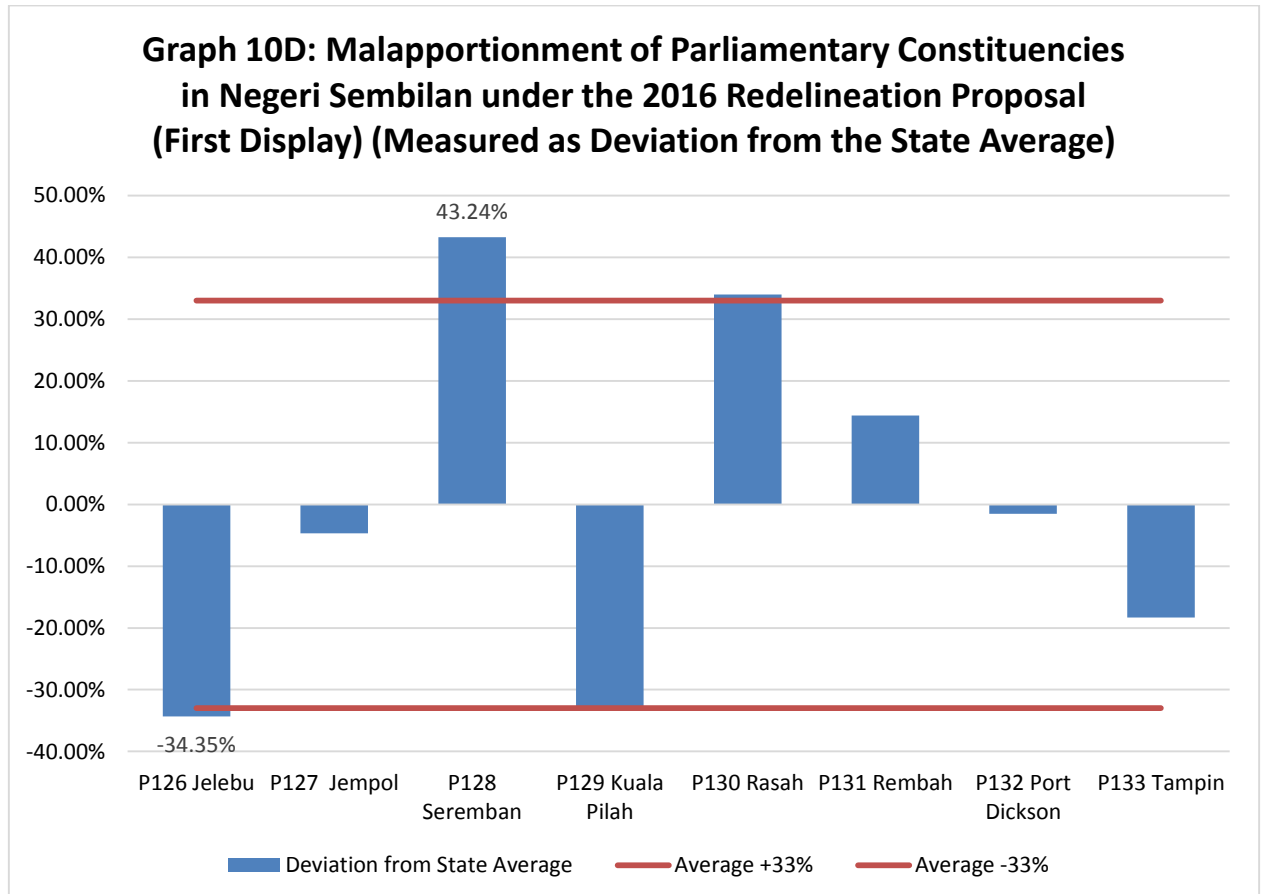

Graph 8D: Malapportionment of Parliamentary Constituencies in Selangor under the 2016 Redelineation Proposal (First Display) (Measured as Deviation from the State Average)

Graph 8E: Malapportionment of State Constituencies in Selangor under the 2016 Redelineation Proposal (First Display)

Graph 8F: Malapportionment of State Constituencies in Selangor after the 2003 Redelineation Exercise (Measured as Deviation from the State Average)

Graph 8G: Malapportionment of State Constituencies in Selangor during the 2013 General Election (Measured as Deviation from the State Average)

Graph 8H: Malapportionment of State Constituencies
in Selangor under the 2016 Redelineation Proposal (First Display)
(Measured as Deviation from the State Average)

Map 8: Draft Plan for Parliamentary and State Constituencies – Selangor

Map 8B: Identified and Suspected Boundary Changes for State Constituencies in Selangor

Source: Bersih 2.0 Redelineation and Action Research Team, 2016

APPENDIX 9

Graph 9A: Malapportionment of Parliamentary Constituencies in Wilayah Persekutuan Kuala Lumpur under the 2016 Redelineation Proposal (First Display)
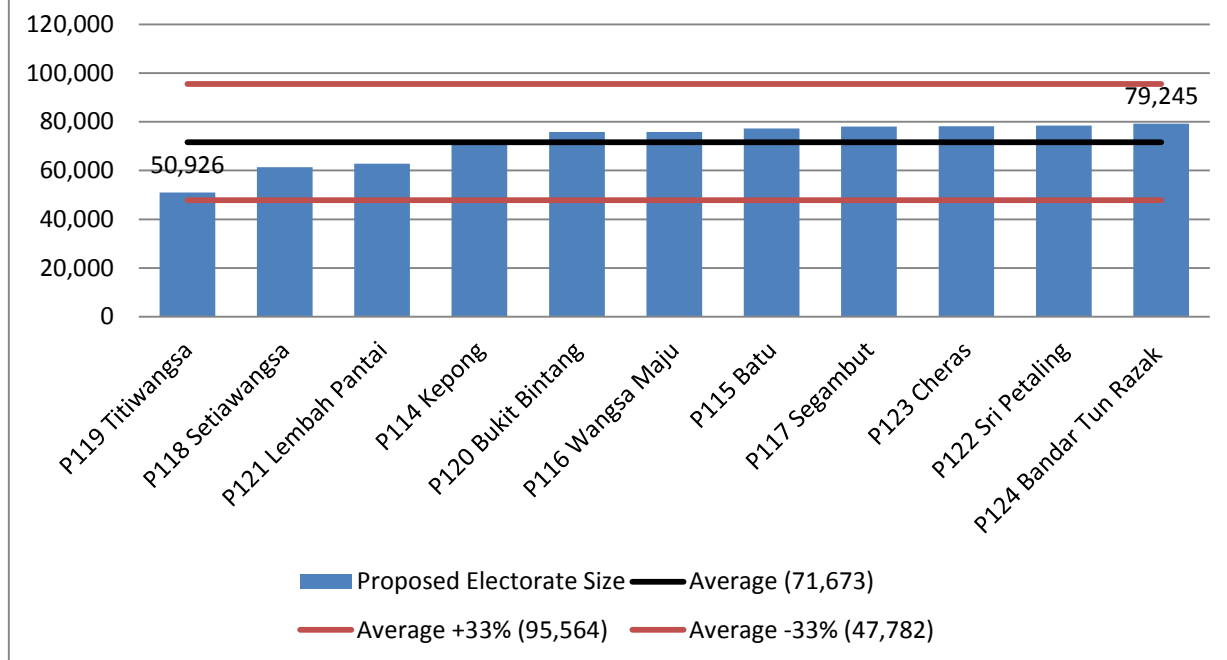
Graph 9B: Malapportionment of Parliamentary Constituencies in Wilayah Persekutuan Kuala Lumpur after the 2003 Redelineation Exercise (Measured as Deviation from the State Average)

Graph 9C: Malapportionment of Parliamentary Constituencies in Wilayah Persekutuan Kuala Lumpur during the 2013 General Election (Measured as Deviation from the State Average)

Graph 9D: Malapportionment of Parliamentary Constituencies in Kuala Lumpur as per the 2016 Redelineation Proposal (First Display) (Measured as Deviation from the State Average)
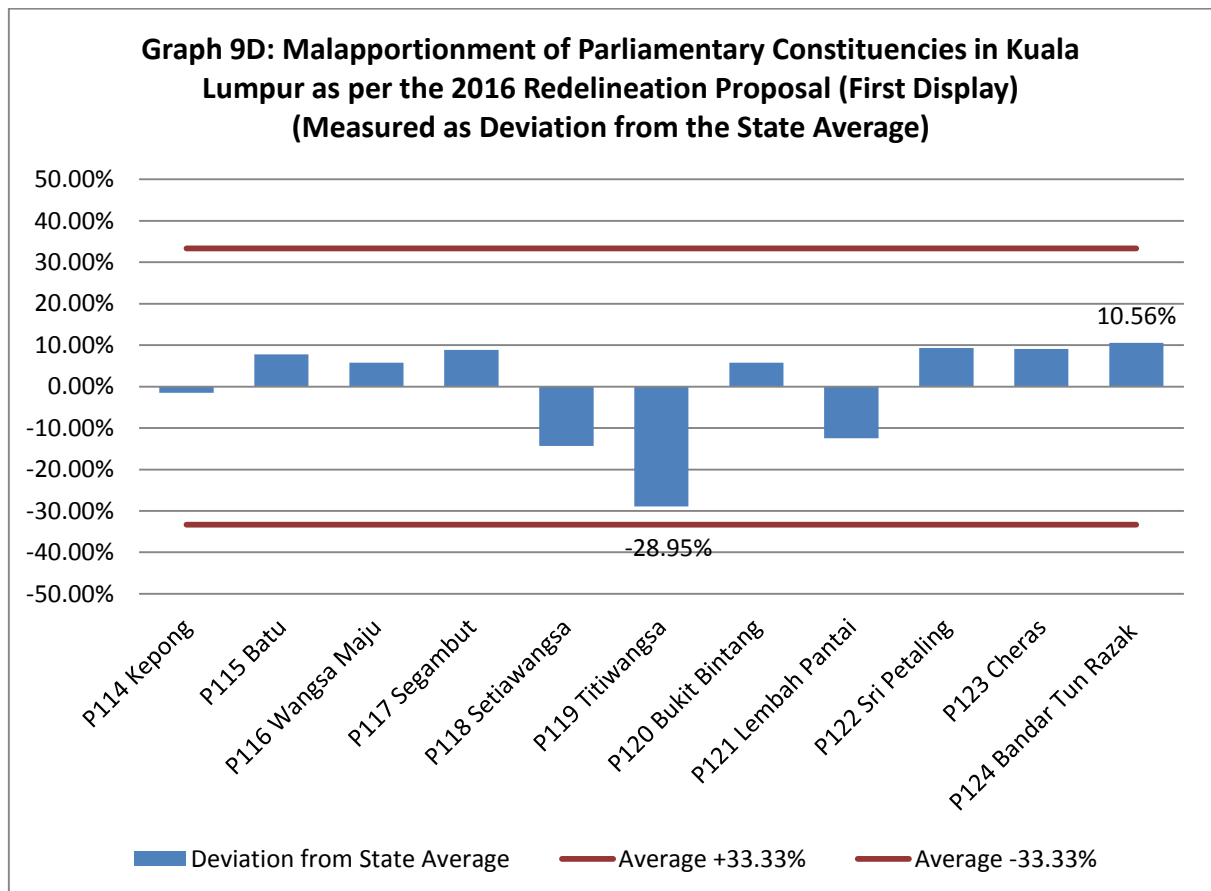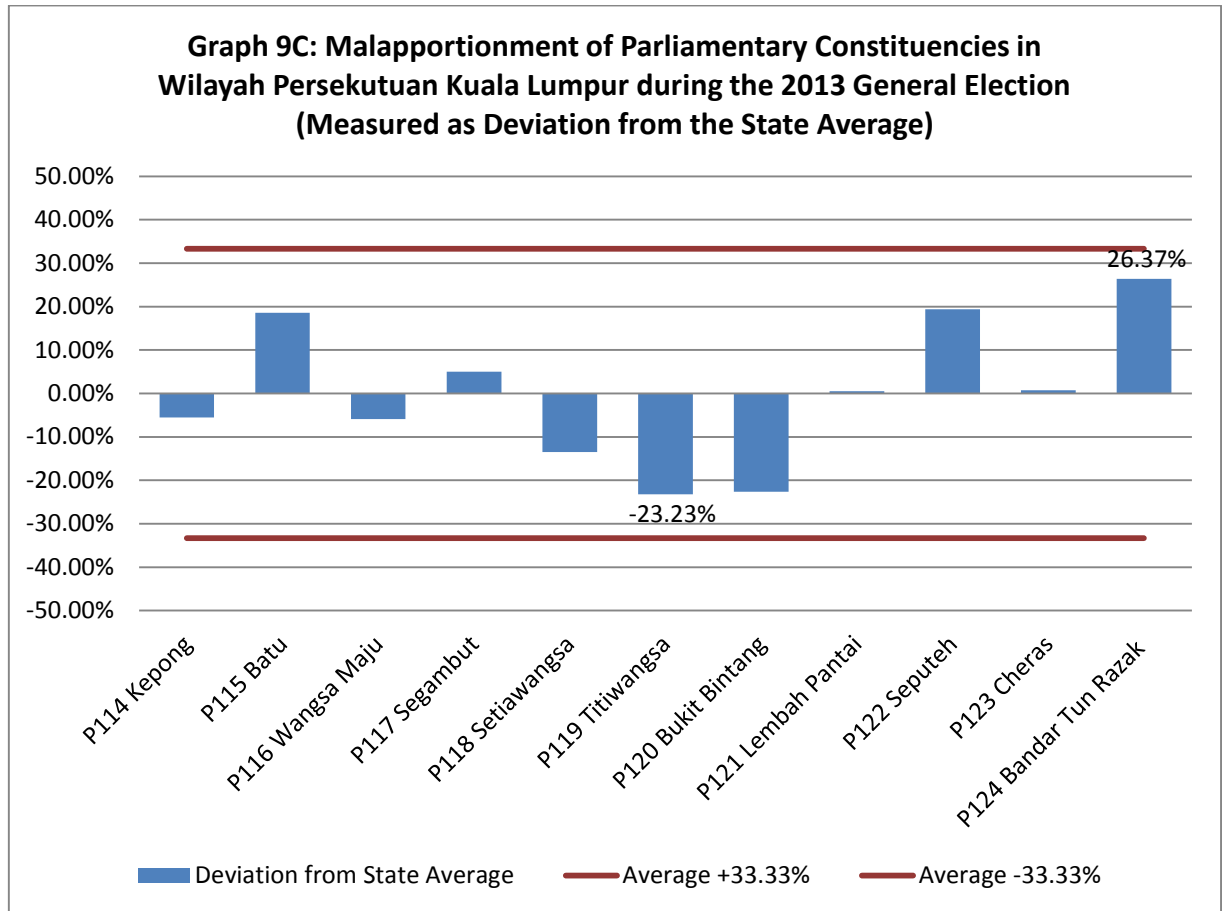
Map 9A: Draft Plan for Parliamentary Constituencies – Wilayah Persekutuan Kuala Lumpur

Map 9B: Identified and Suspected Boundary Changes for Parliamentary Constituencies in Wilayah Persekutuan Kuala Lumpur

Source: Bersih 2.0 Redelineation and Action Research Team, 2016

APPENDIX 10

Graph 10A: Malapportionment of Parliamentary Constituencies in Negeri Sembilan under the 2016 Redelineation Proposal (First Display)

Graph 10B: Malapportionment of Parliamentary Constituencies in Negeri Sembilan after the 2003 Redelineation Exercise (Measured as Deviation from the State Average)
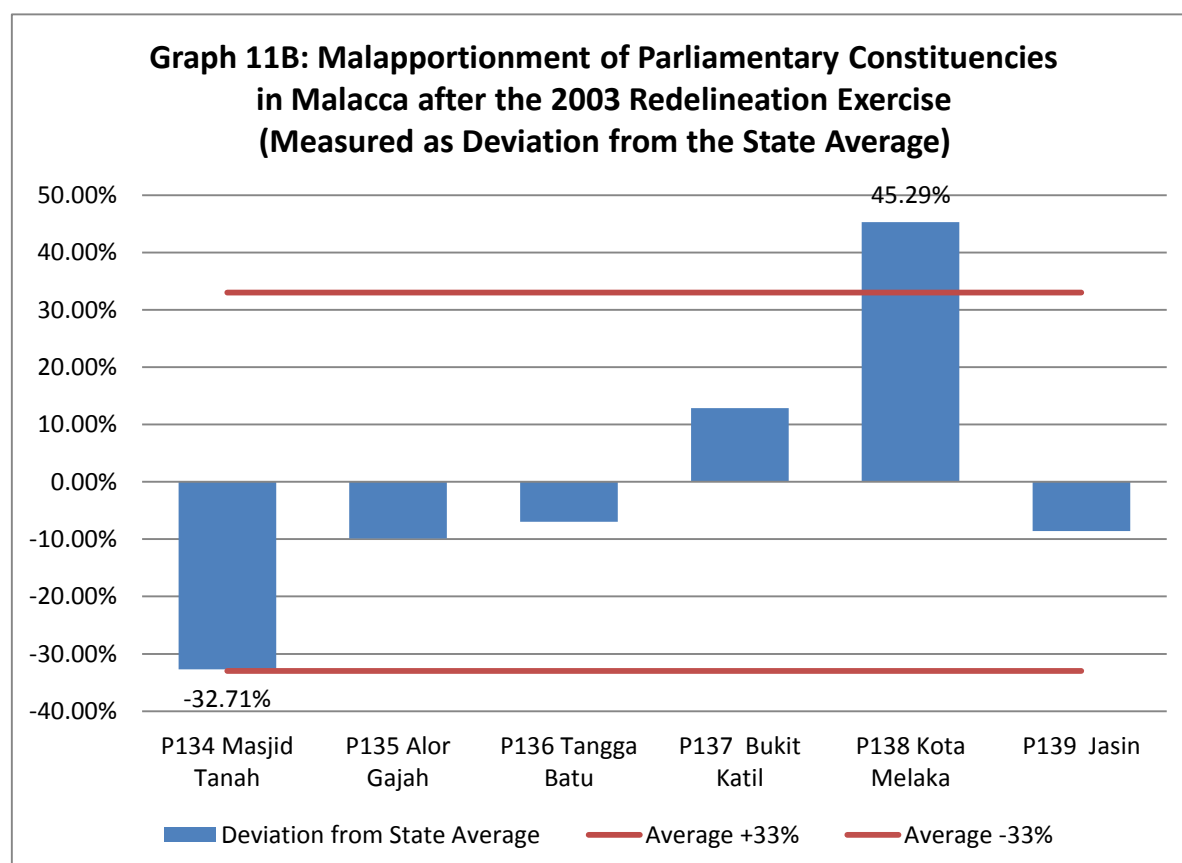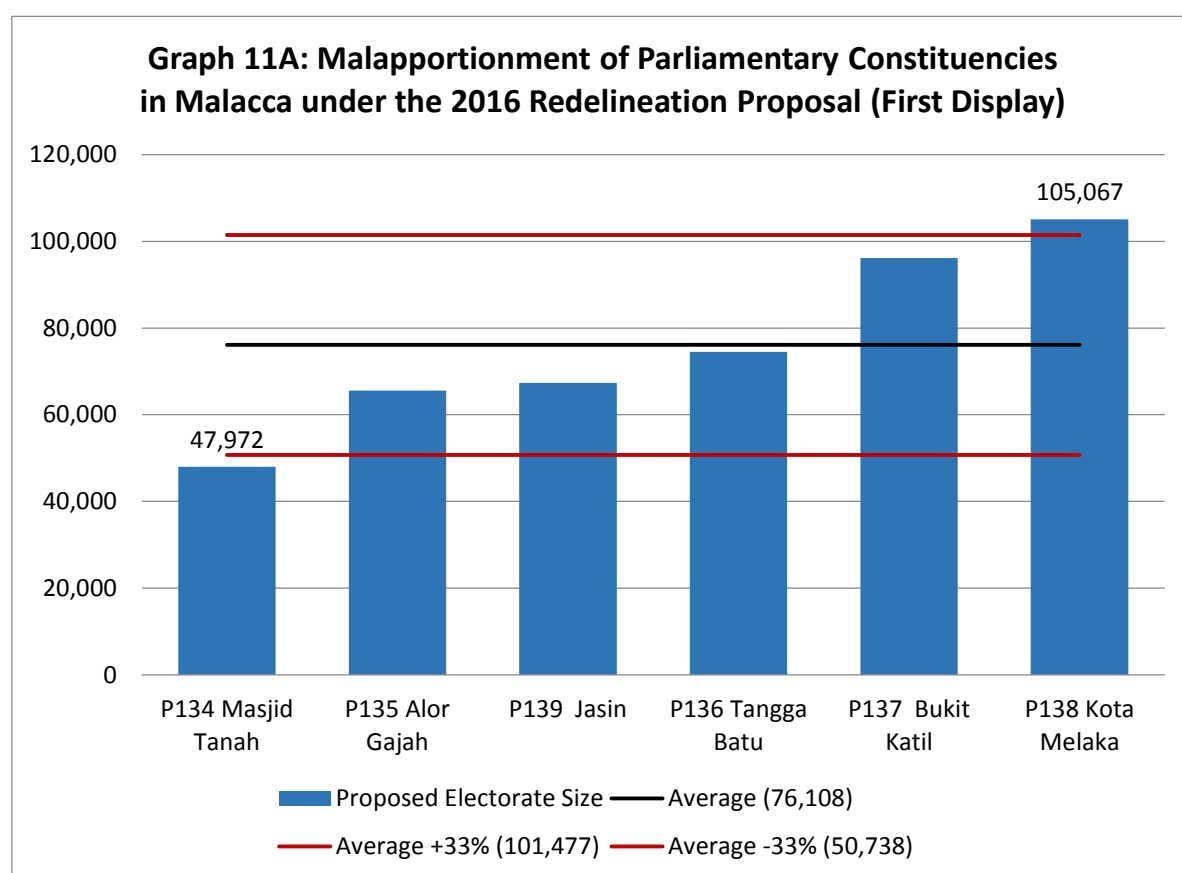
Graph 10C: Malapportionment of Parliamentary Constituencies in Negeri Sembilan during the 2013 General Election (Measured as Deviation from the State Average)

Graph 10D: Malapportionment of Parliamentary Constituencies in Negeri Sembilan under the 2016 Redelineation Proposal (First Display) (Measured as Deviation from the State Average)
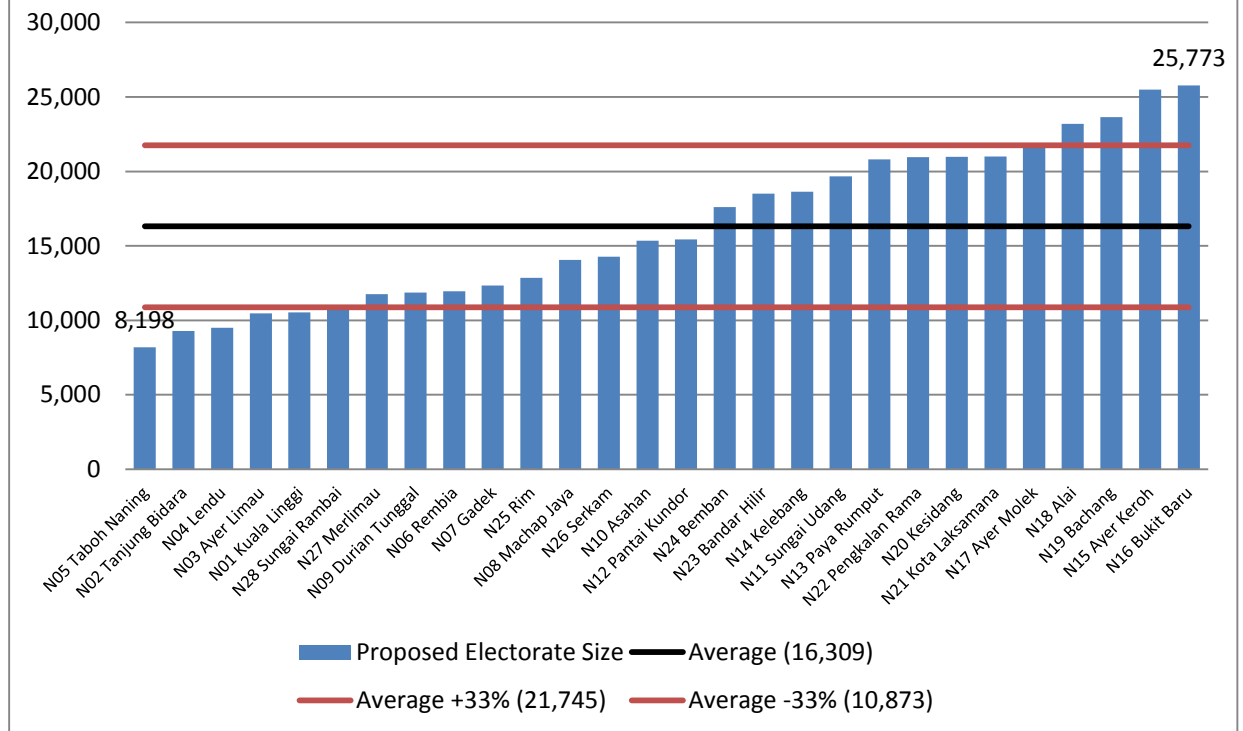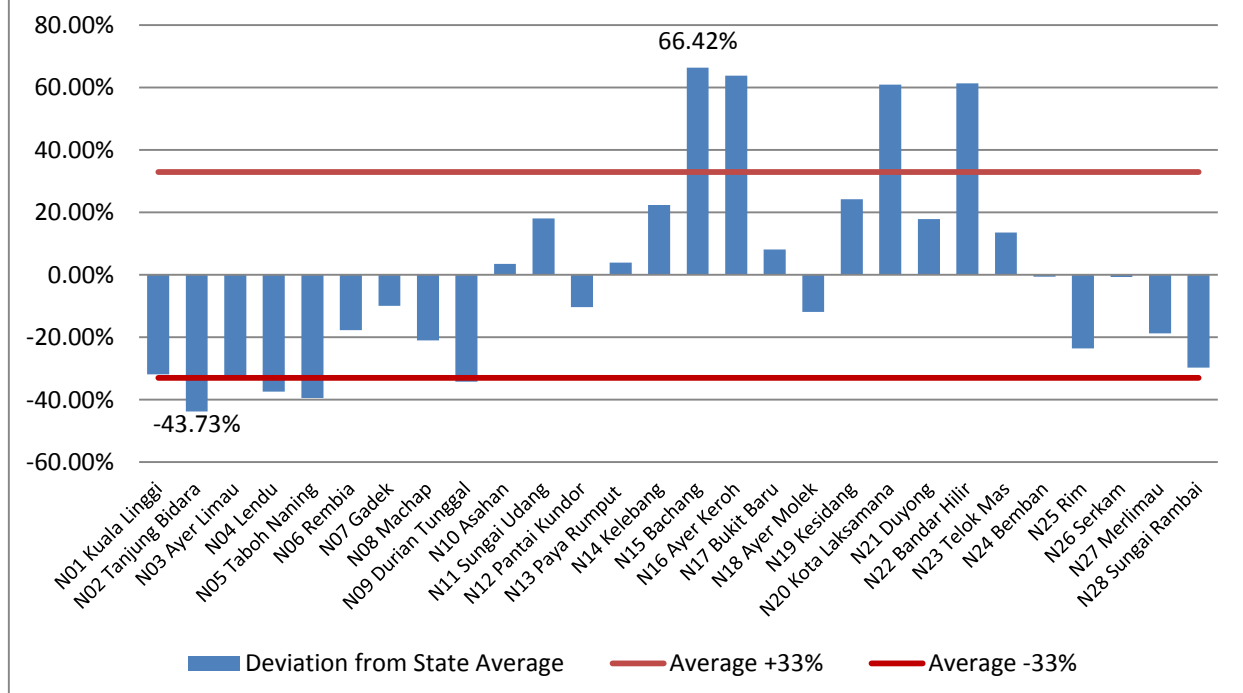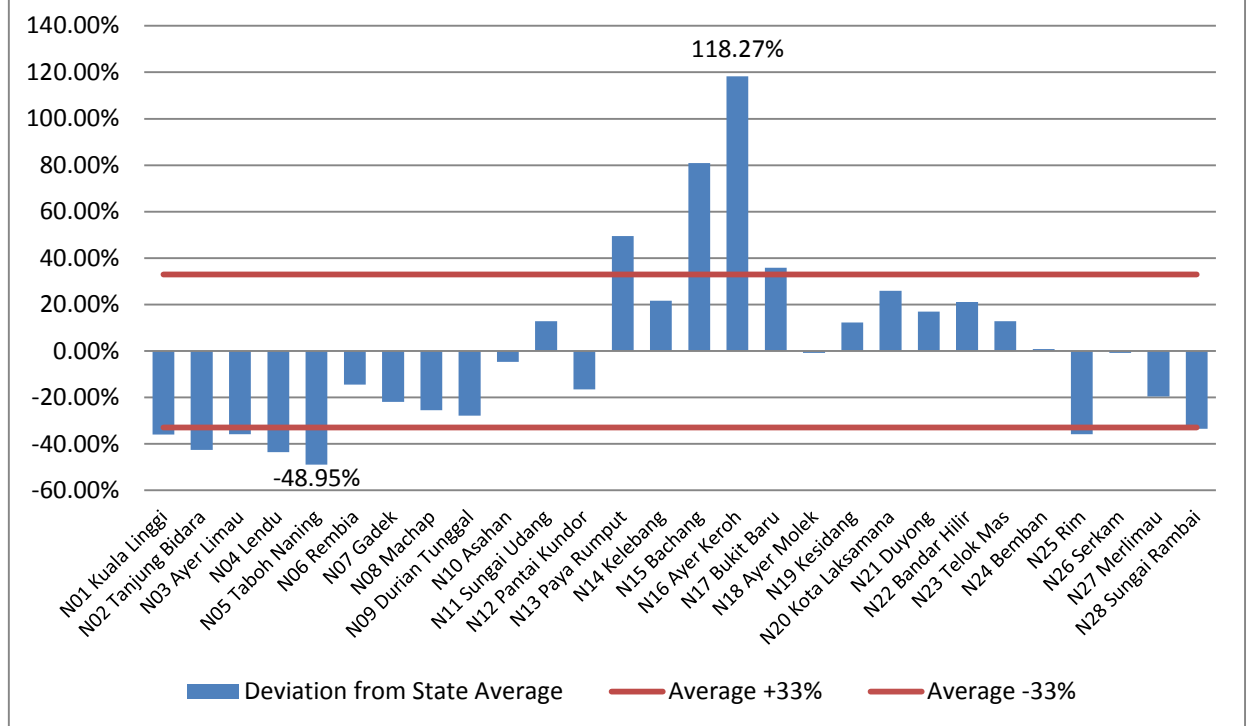
Graph 10E: Malapportionment of State Constituencies
in Negeri Sembilan under the 2016 Redelineation Proposal (First Display)

**Graph 10F: Malapportionment of State Constituencies
in Negeri Sembilan after the 2003 Redelineation Exercise
(Measured as Deviation from the State Average)**

29.97%

-40.33%

Deviation from State Average — Average +33% — Average -33%

Graph 10G: Malapportionment of State Constituencies in Negeri Sembilan during the 2013 General Election (Measured as Deviation from the State Average)

Graph 10H: Malapportionment of State Constituencies
in Negeri Sembilan under the 2016 Redelineation Proposal (First Display)
(Measured as Deviation from the State Average)

Map 10A: Draft Plan for Parliamentary and State Constituencies – Negeri Sembilan

Map 10B: Identified and Suspected Boundary Changes for State Constituencies in Negeri Sembilan

Souce: Bersih 2.0 Redelineation and Action Research Team, 2016

APPENDIX 11

Graph 11A: Malapportionment of Parliamentary Constituencies in Malacca under the 2016 Redelineation Proposal (First Display)

Legend:
- Proposed Electorate Size
- Average (76,108)
- Average +33% (101,477)
- Average -33% (50,738)

Graph 11B: Malapportionment of Parliamentary Constituencies in Malacca after the 2003 Redelineation Exercise (Measured as Deviation from the State Average)

Legend:
- Deviation from State Average
- Average +33%
- Average -33%

Graph 11C: Malapportionment of Parliamentary Constituencies in Malacca during the 2013 General Election (Measured as Deviation from the State Average)
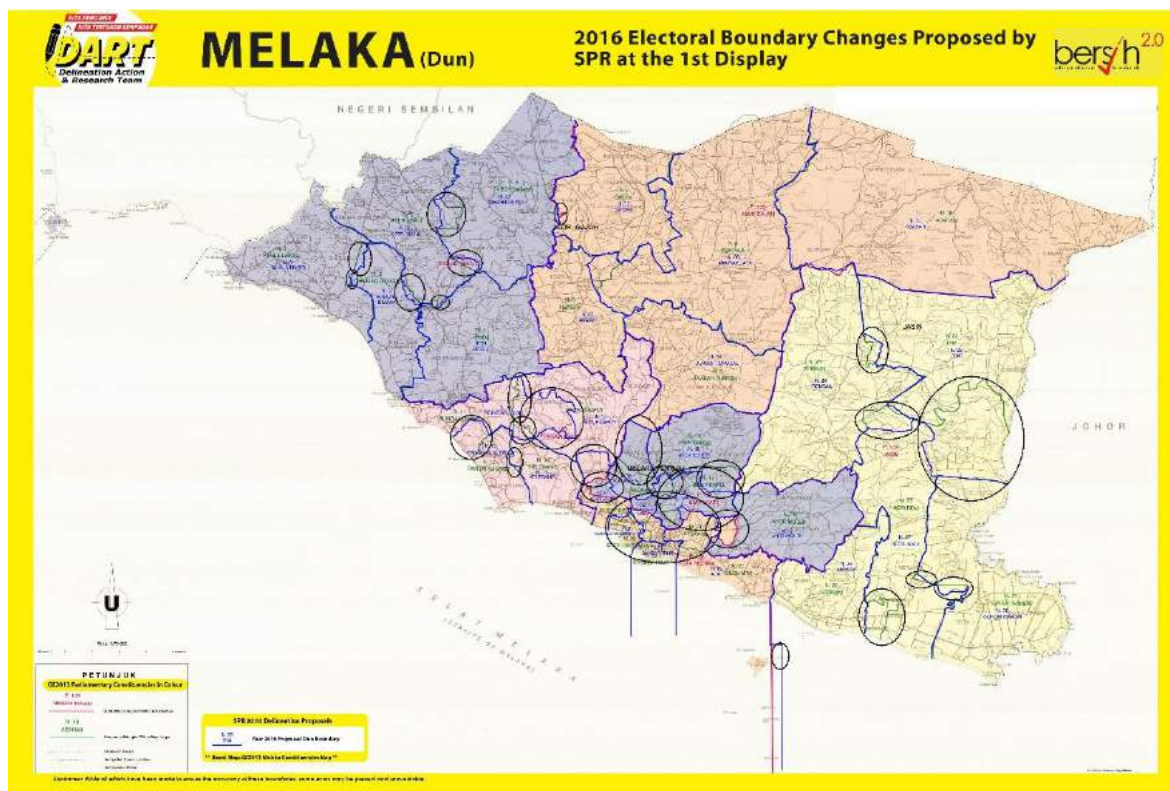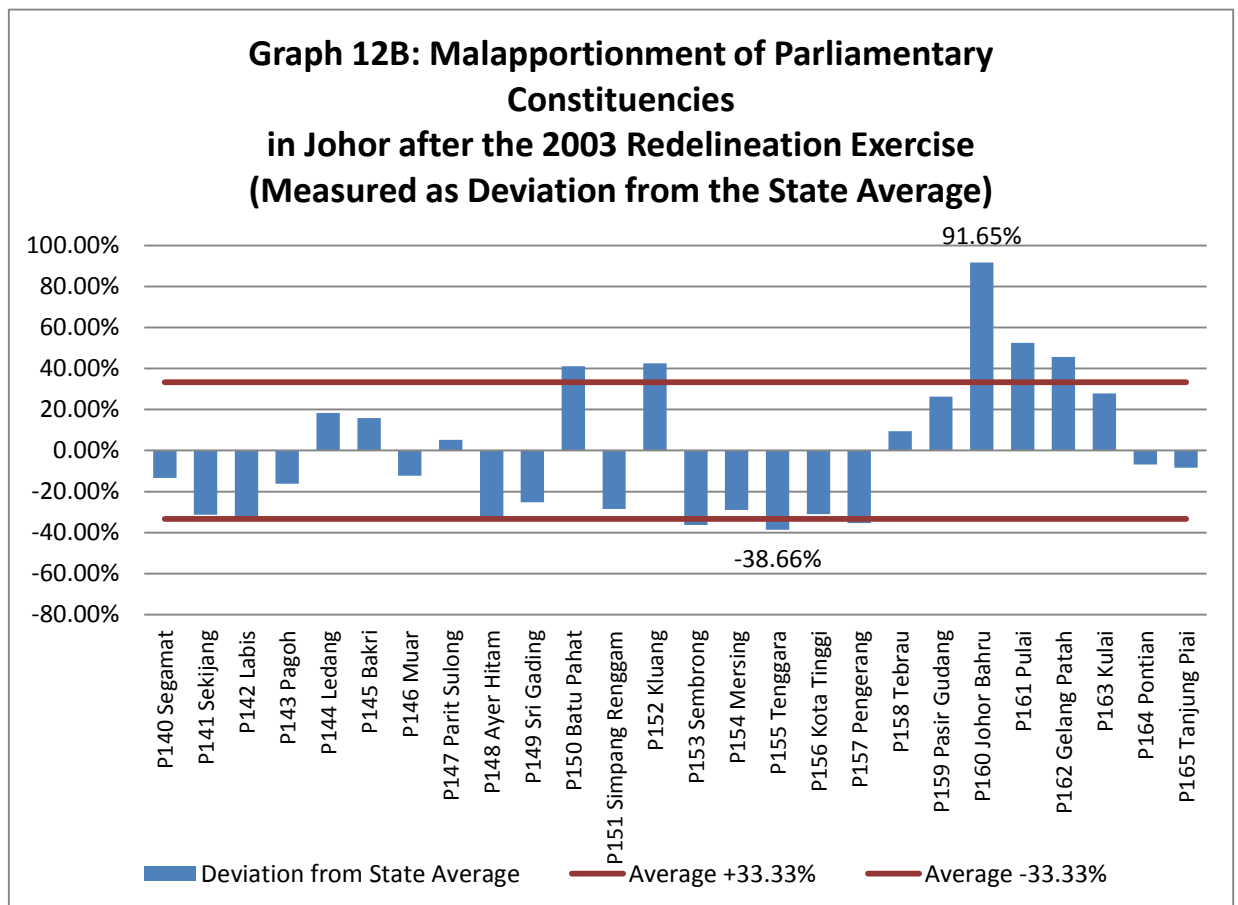

Graph 11D: Malapportionment of Parliamentary Constituencies in Malacca under the 2016 Redelineation Proposal (First Display) (Measured as Deviation from the State Average)
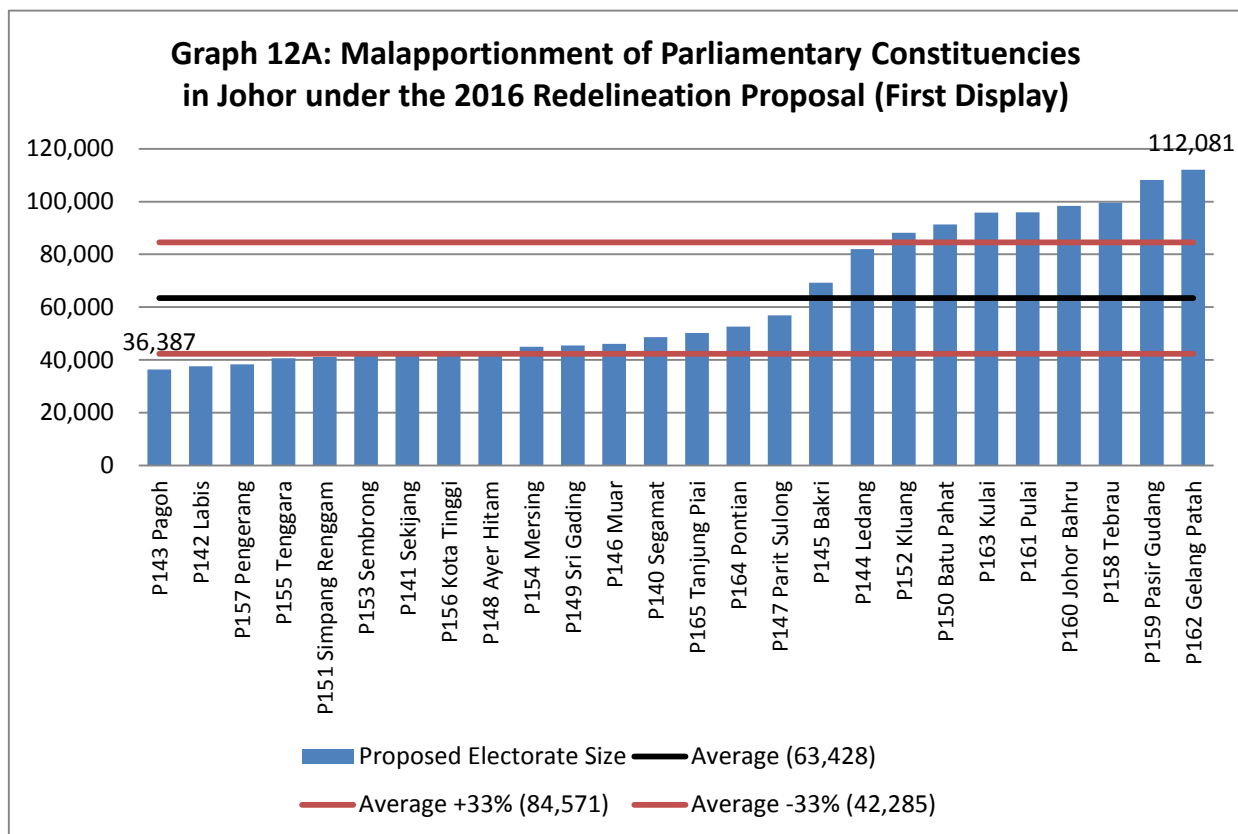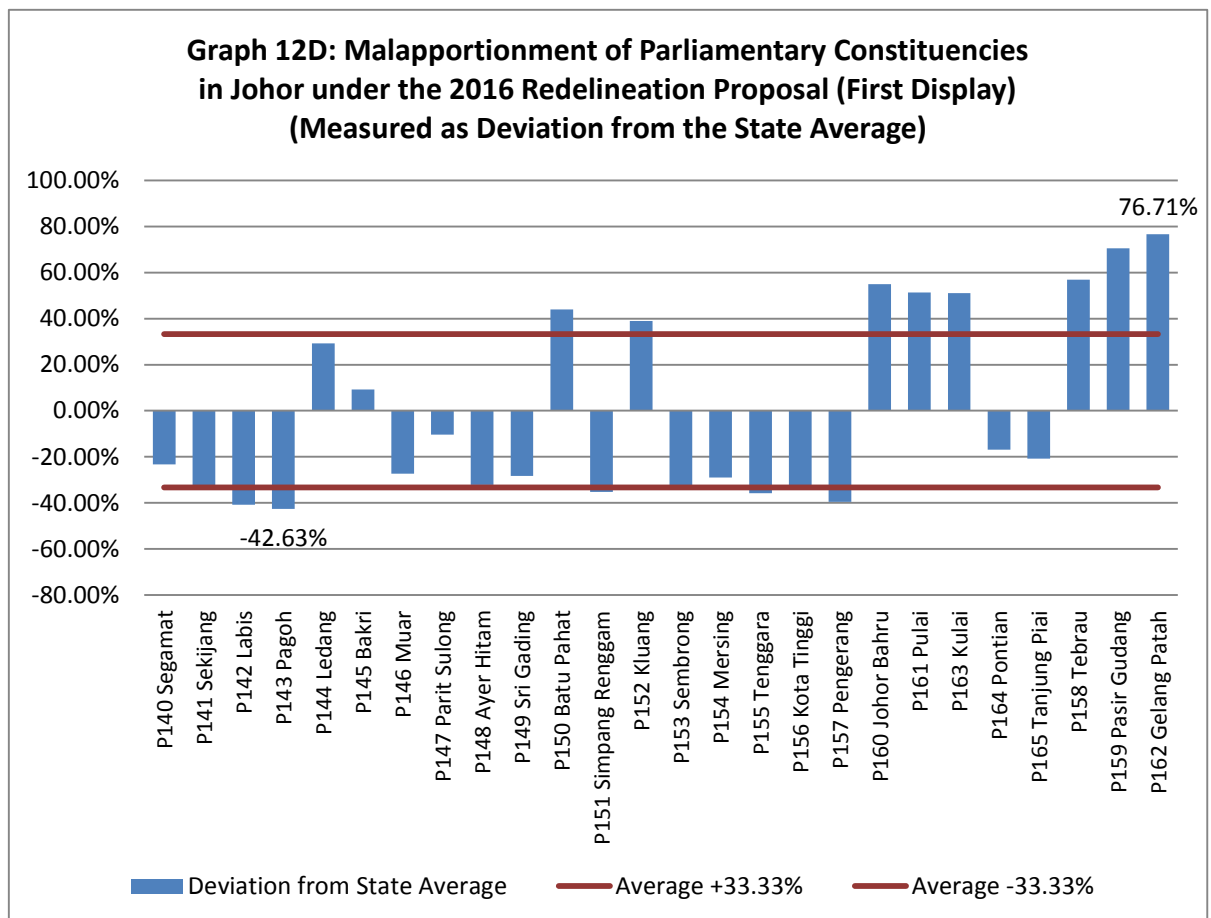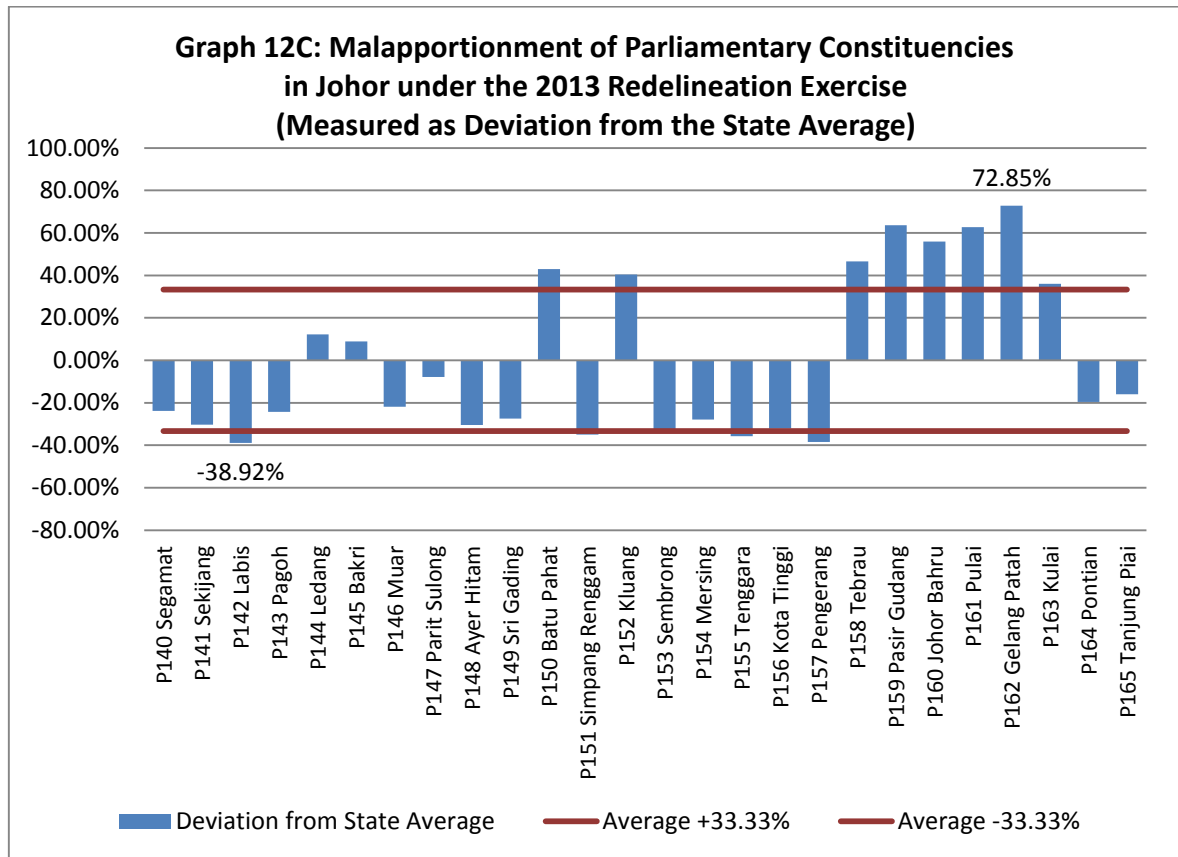
**Graph 11E: Malapportionment of State Constituencies
in Melaka under the 2016 Redelineation Proposal
(First Display)**

**Graph 11F: Malapportionment of State Constituencies
in Malacca after the 2003 Redelineation Exercise
(Measured as Deviation from the State Average)**

**Graph 11G: Malapportionment of State Constituencies
in Malacca during the 2013 General Election
(Measured as Deviation from the State Average)**

**Graph 11H: Malapportionment of State Constituencies
in Malacca under the 2016 Redelineation Proposal
(First Display) (Measured as Deviation from the State Average)**

Map 11A: Draft Plan for Parliamentary and State Constituencies – Malacca
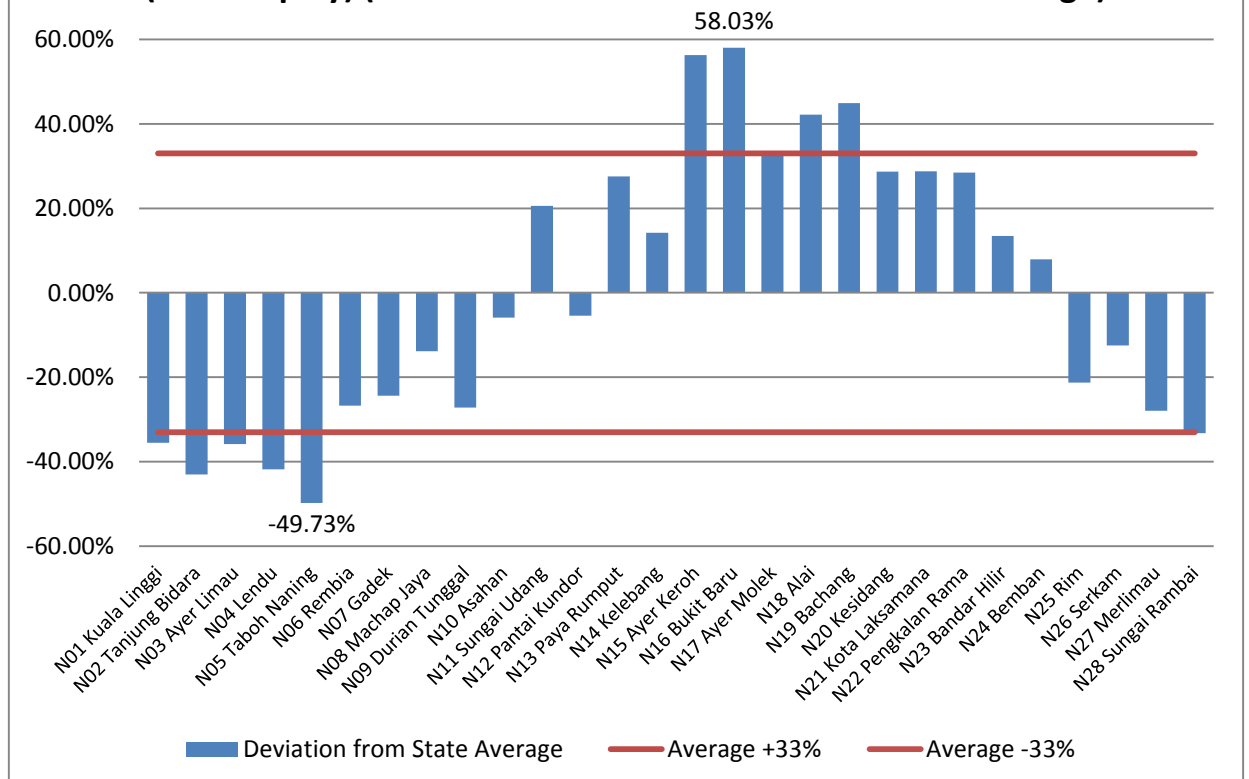
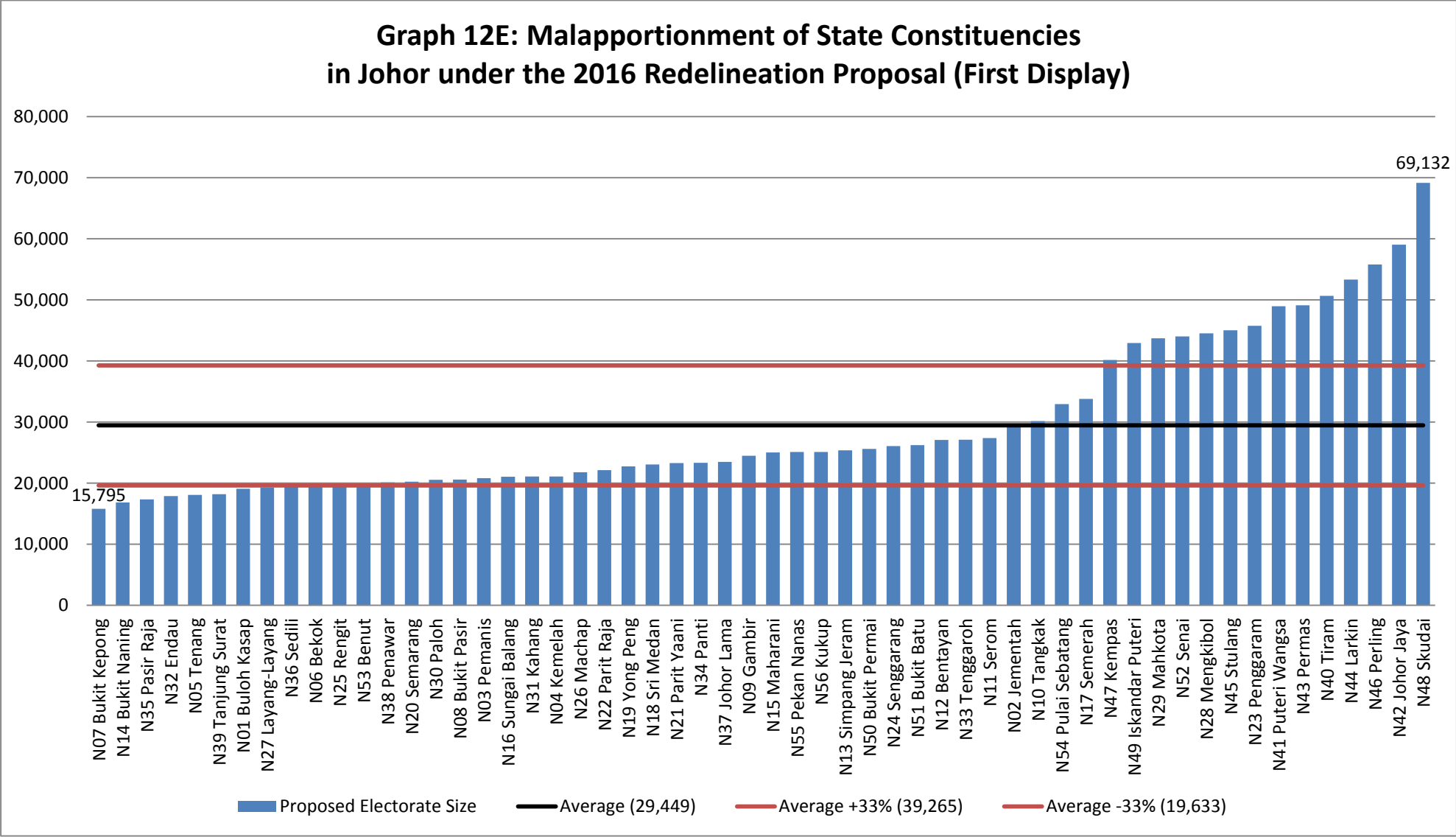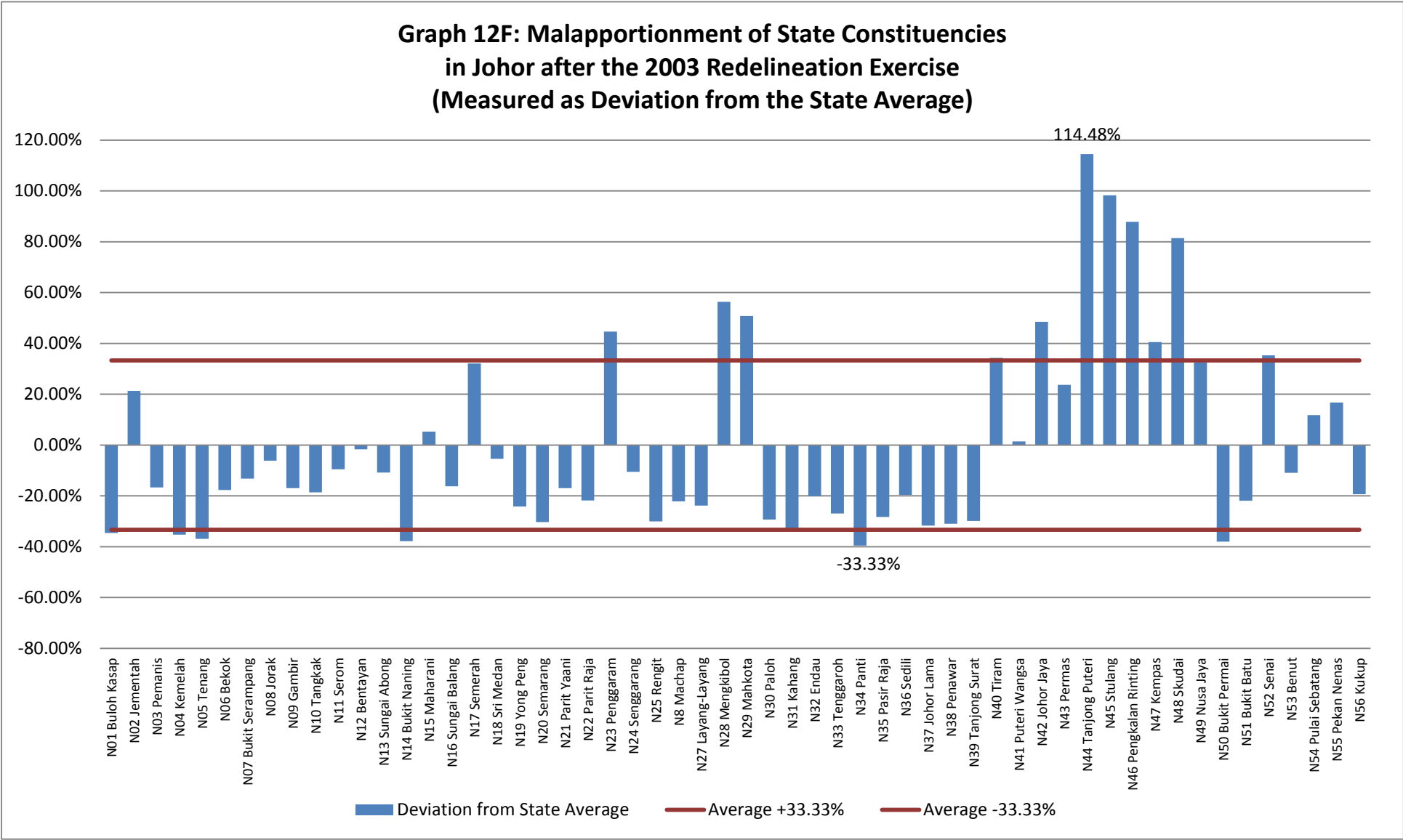**Map 11B: Identified and Suspected Boundary Changes for State Constituencies in Malacca**

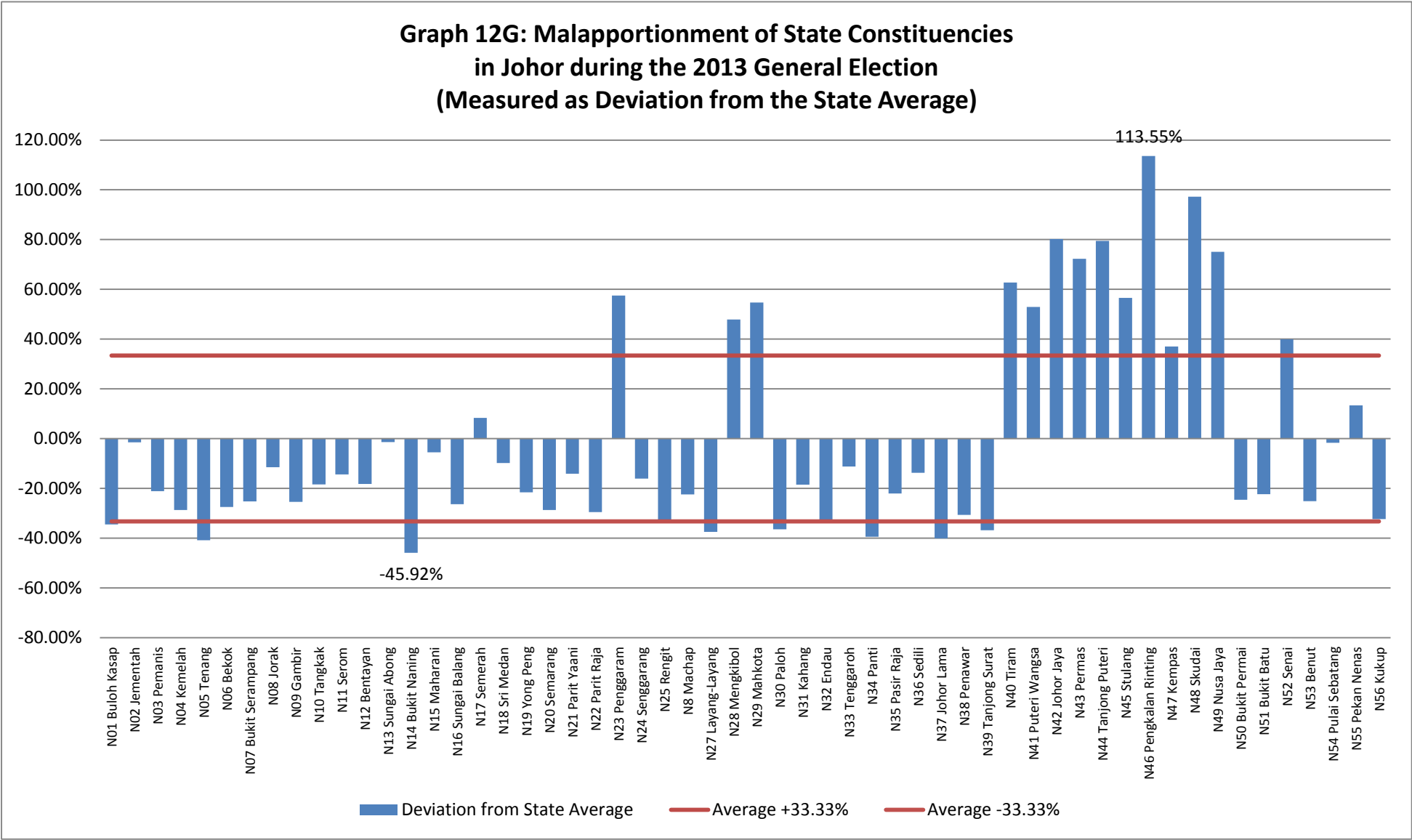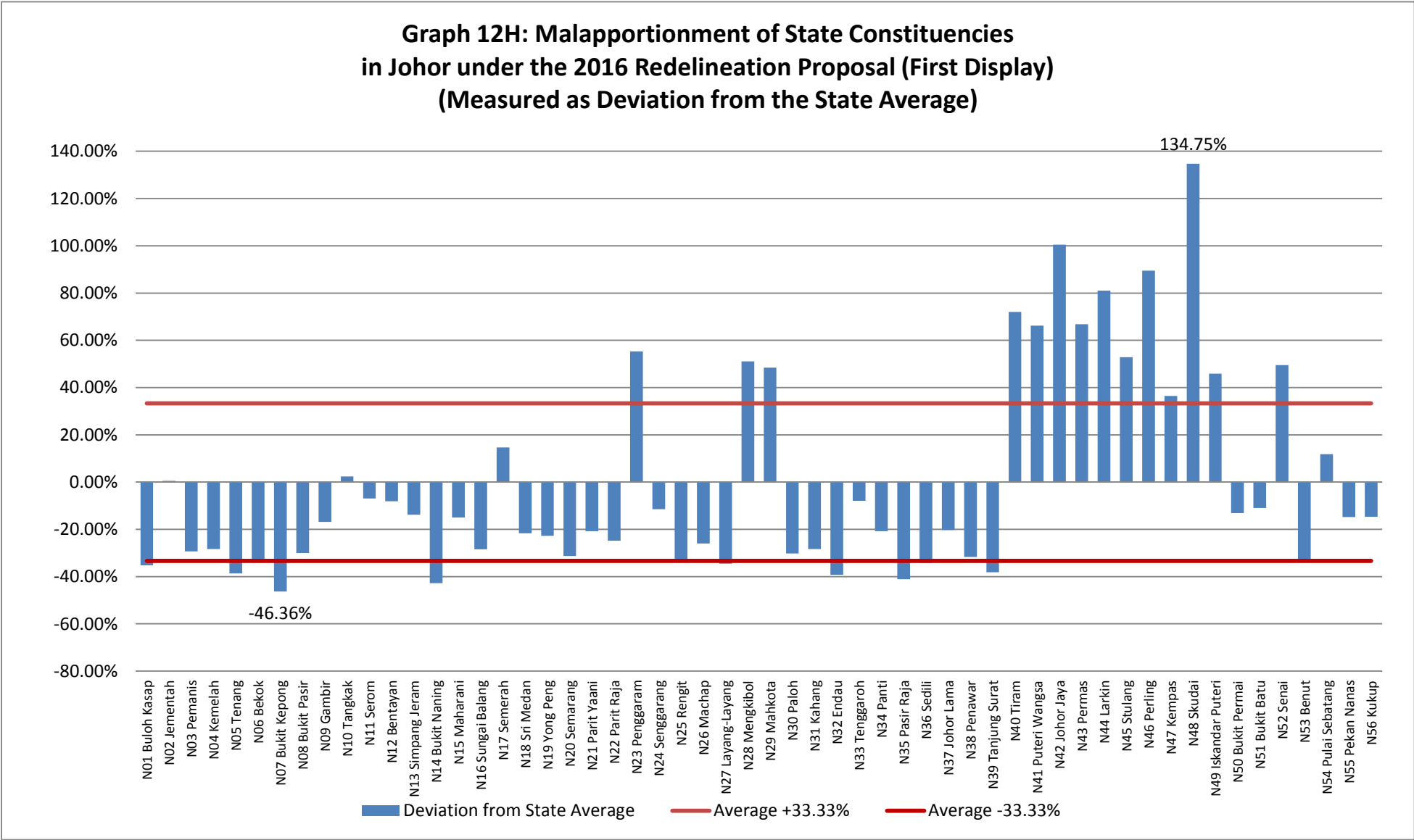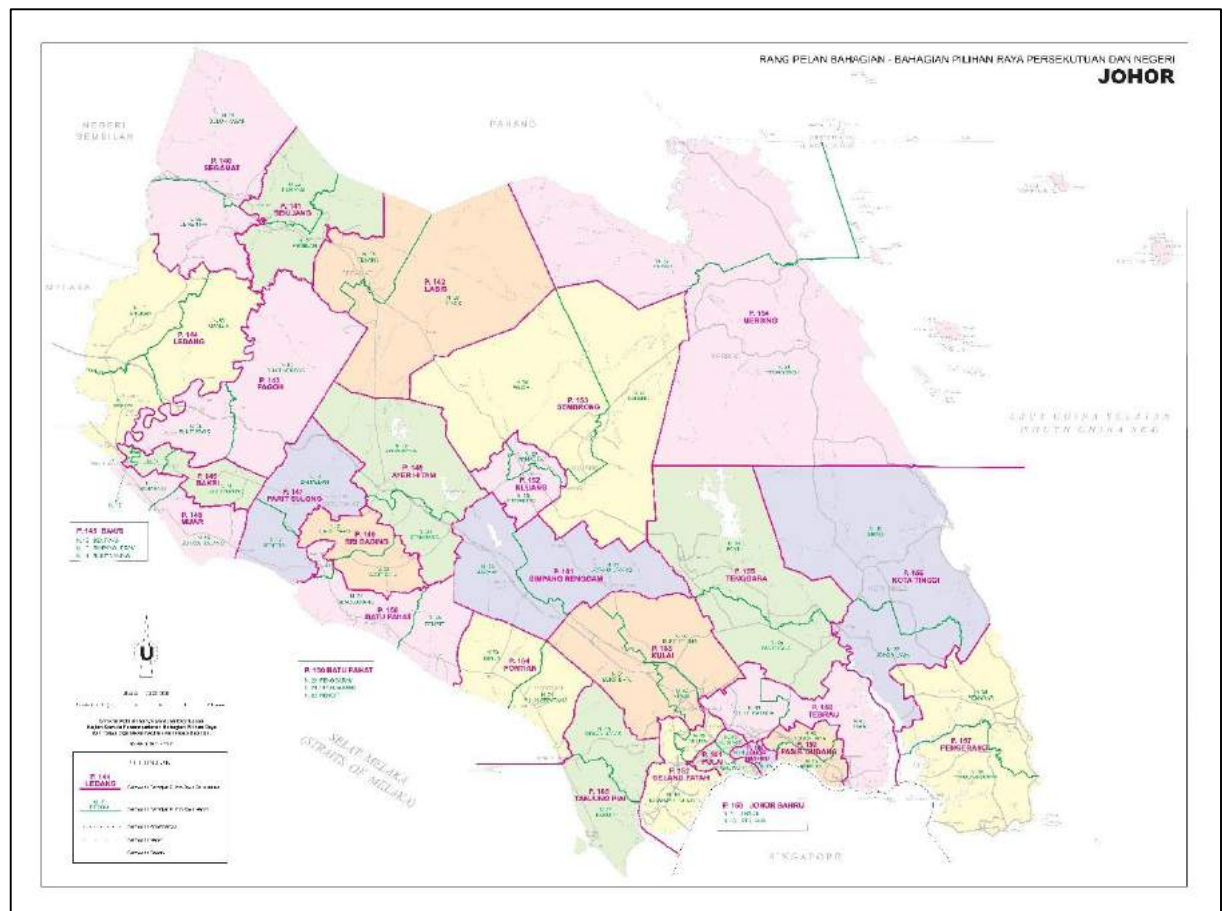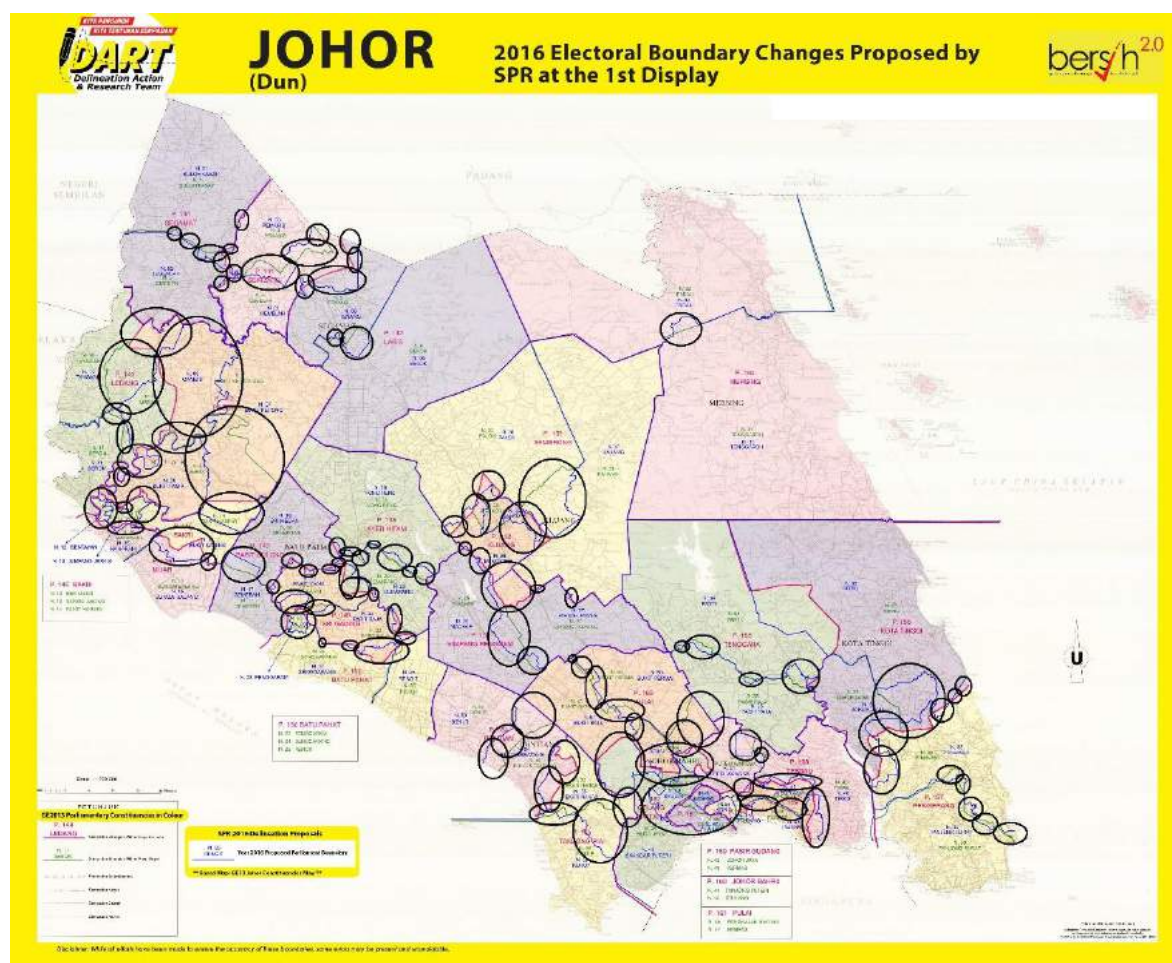*Source: Bersih 2.0 Redelineation and Action Research Team, 2016*

APPENDIX 12

Graph 12A: Malapportionment of Parliamentary Constituencies in Johor under the 2016 Redelineation Proposal (First Display)

36,387

112,081

Proposed Electorate Size — Average (63,428)

Average +33% (84,571) — Average -33% (42,285)

Graph 12B: Malapportionment of Parliamentary Constituencies in Johor after the 2003 Redelineation Exercise (Measured as Deviation from the State Average)

91.65%

-38.66%

Deviation from State Average — Average +33.33% — Average -33.33%

Graph 12C: Malapportionment of Parliamentary Constituencies in Johor under the 2013 Redelineation Exercise (Measured as Deviation from the State Average)

72.85%

-38.92%

Deviation from State Average — Average +33.33% — Average -33.33%

Graph 12D: Malapportionment of Parliamentary Constituencies in Johor under the 2016 Redelineation Proposal (First Display) (Measured as Deviation from the State Average)

76.71%

-42.63%

Deviation from State Average — Average +33.33% — Average -33.33%

145

Graph 12E: Malapportionment of State Constituencies in Johor under the 2016 Redelineation Proposal (First Display)

Graph 12F: Malapportionment of State Constituencies in Johor after the 2003 Redelineation Exercise (Measured as Deviation from the State Average)

Graph 12G: Malapportionment of State Constituencies in Johor during the 2013 General Election (Measured as Deviation from the State Average)

Graph 12H: Malapportionment of State Constituencies
in Johor under the 2016 Redelineation Proposal (First Display)
(Measured as Deviation from the State Average)

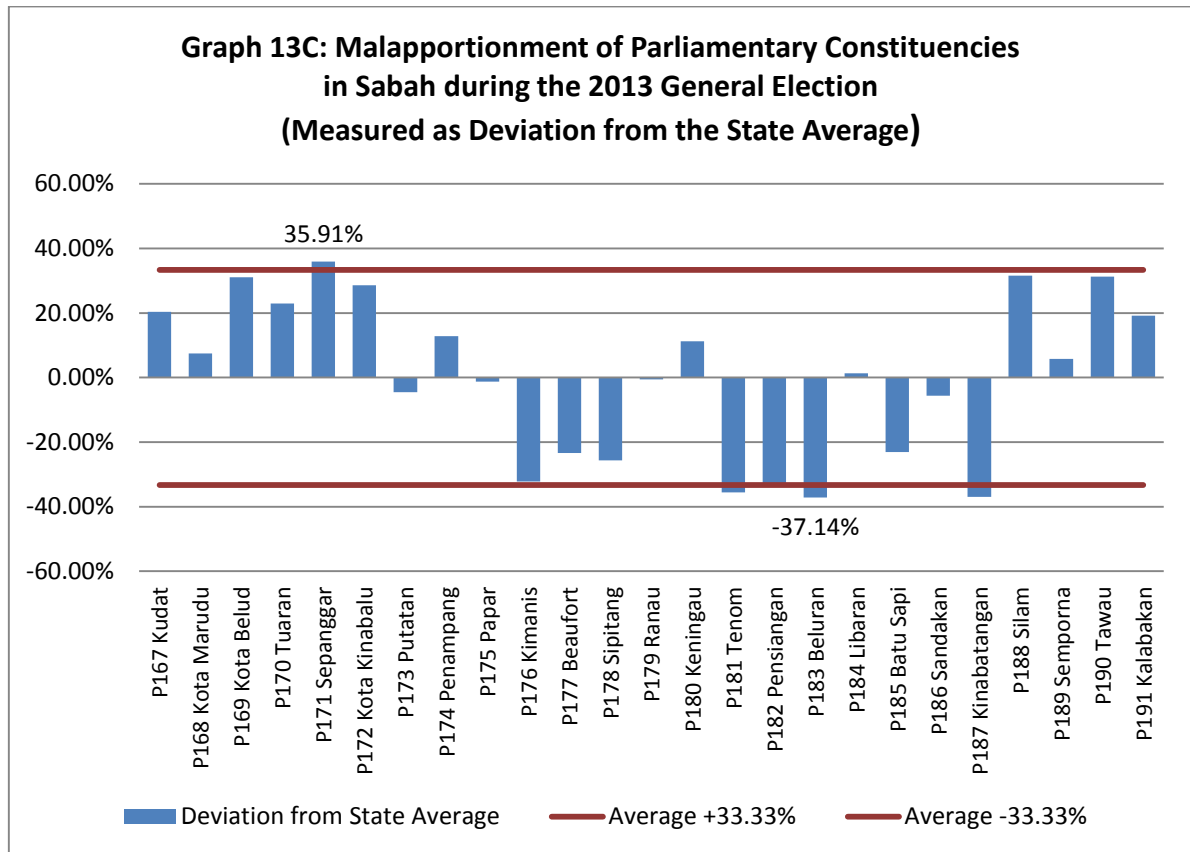**Map 12A: Draft Plan for Parliamentary and State Constituencies – Johor**

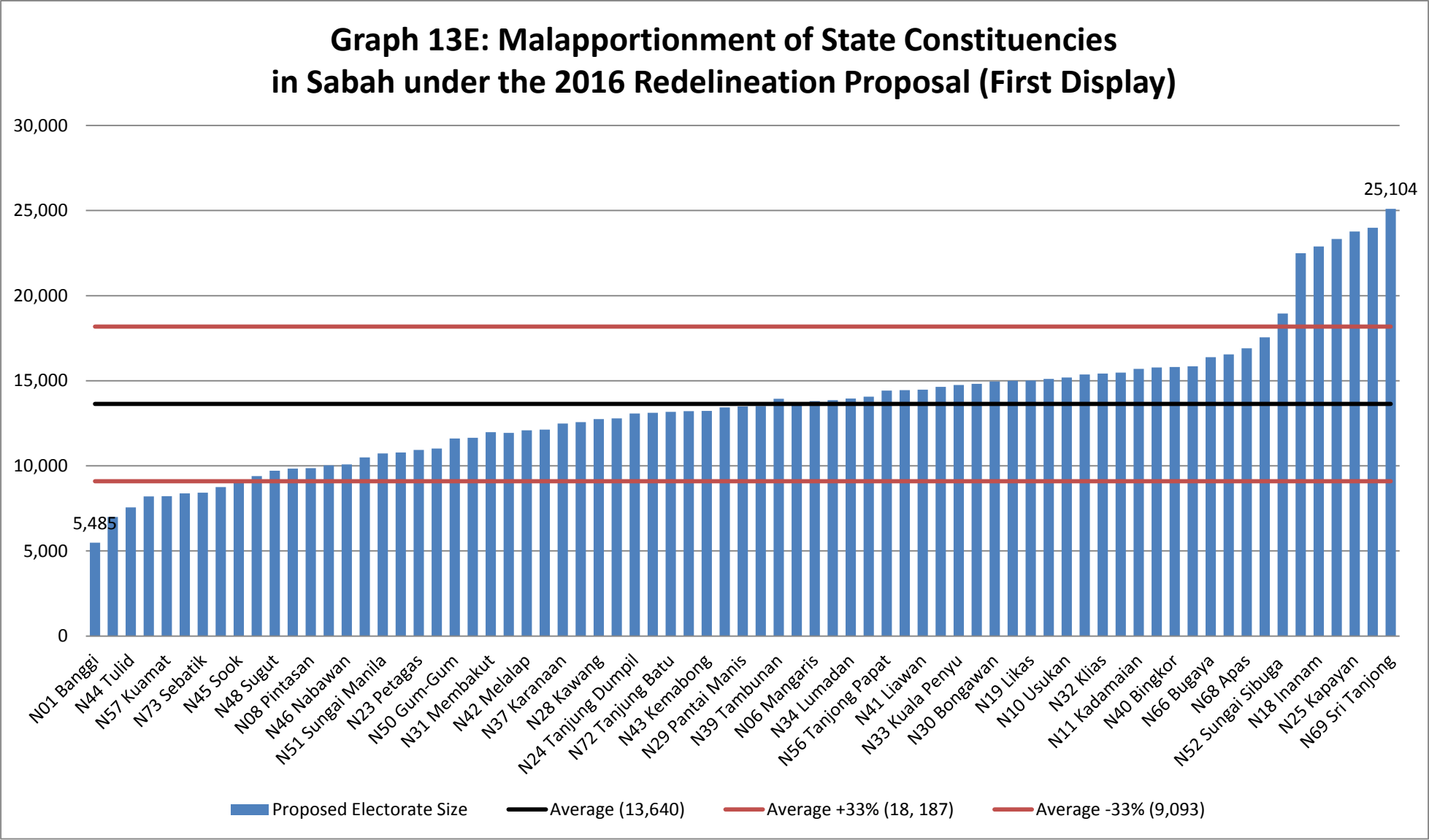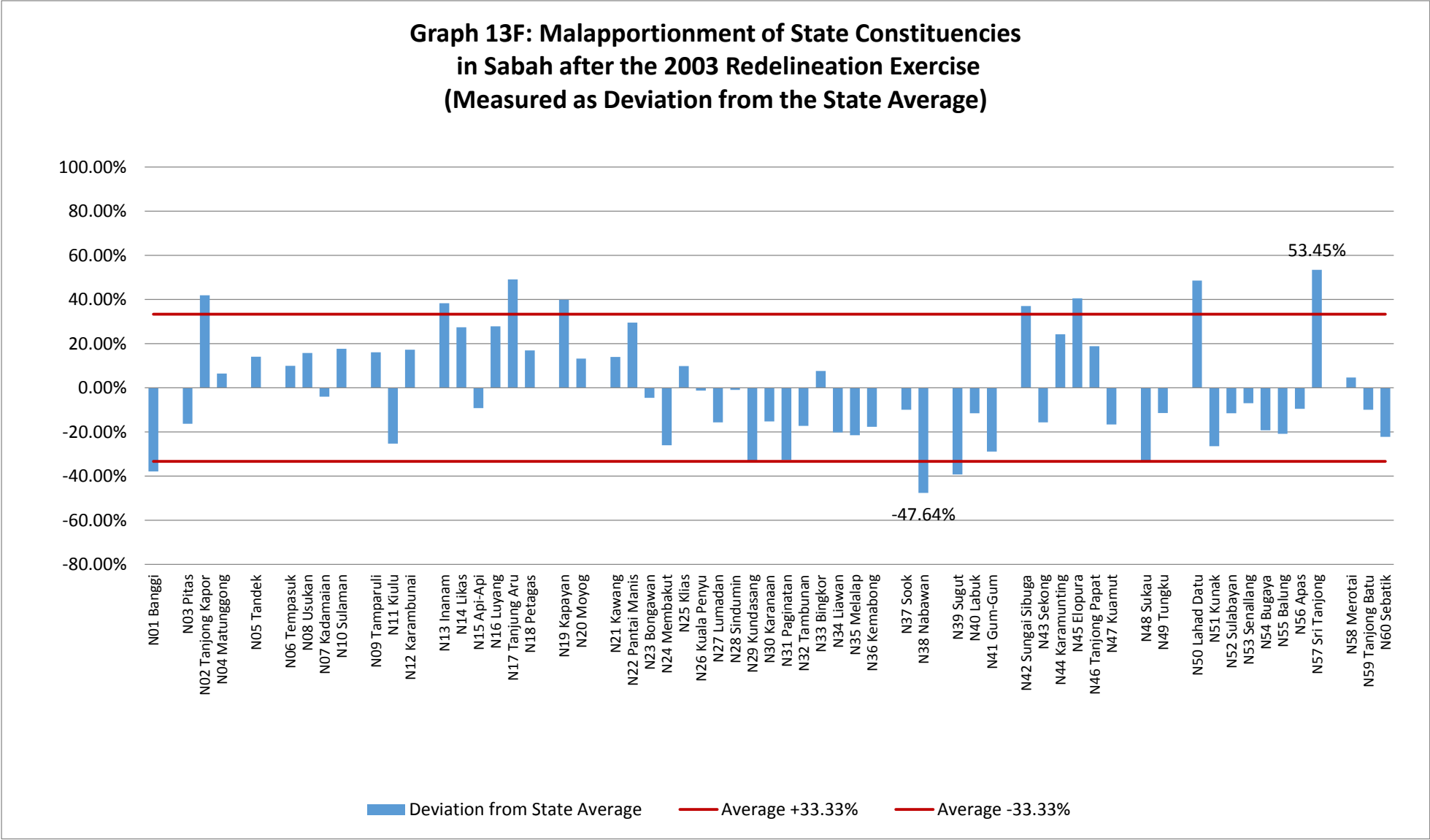**Map 12B: Identified and Suspected Boundary Changes for State Constituencies in Johor**

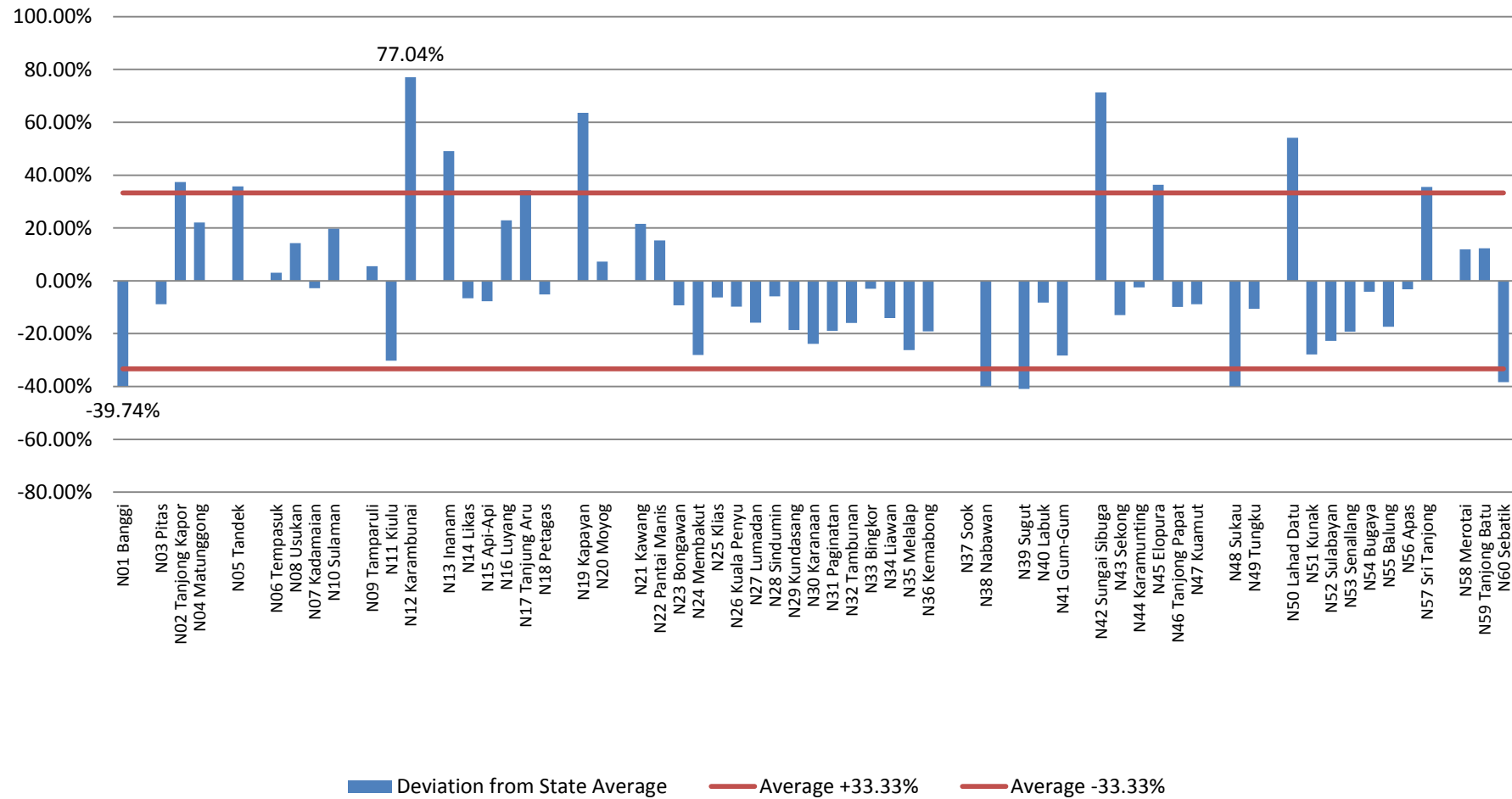*Source: Bersih 2.0 Redelineation and Action Research Team, 2016*
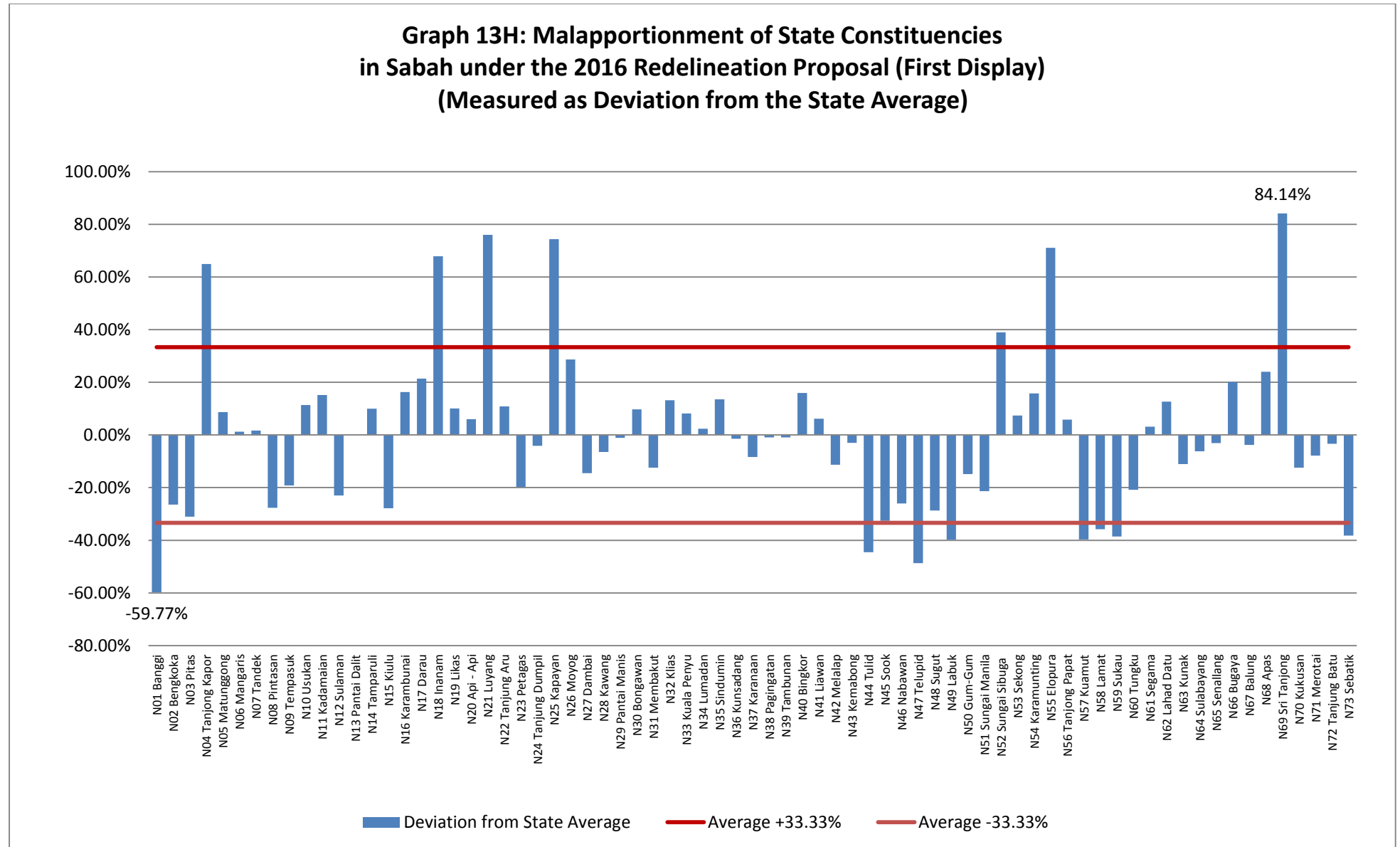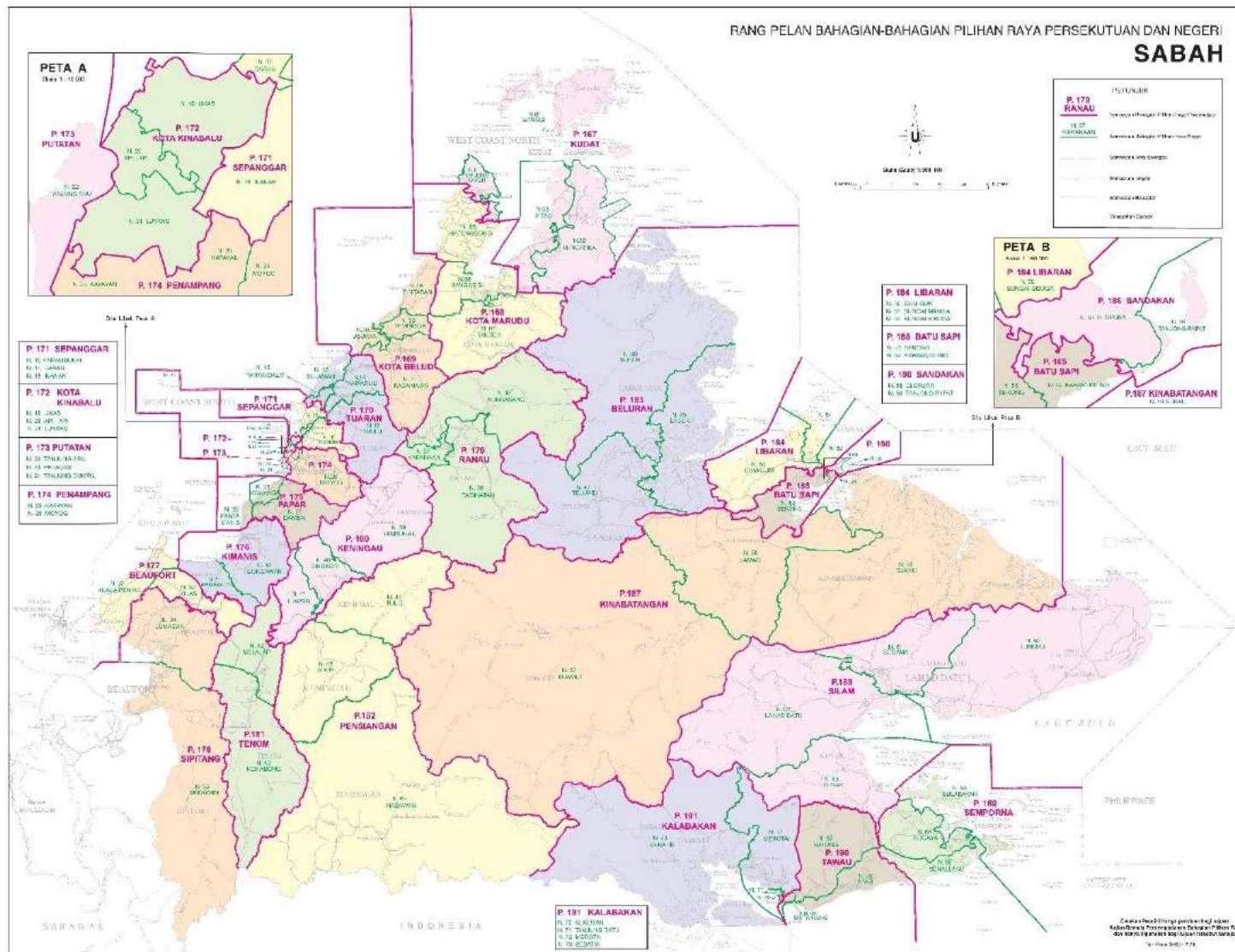
APPENDIX 13

Graph 13A: Malapportionment of Parliamentary Constituencies in Sabah under the 2016 Redelineation Proposal (First Display)

Legend: Proposed Electorate Size — Average +33% (53,106) — Average -33% (26,553)

Graph 13B: Malapportionment of Parliamentary Constituencies in Sabah after the 2003 Redelineation Exercise (Measured as Deviation from the State Average)

Legend: Deviation from State Average — Average +33.33% — Average -33.33%

Graph 13C: Malapportionment of Parliamentary Constituencies in Sabah during the 2013 General Election (Measured as Deviation from the State Average)
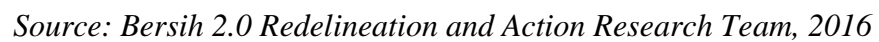

Graph 13D: Malapportionment of Parliamentary Constituencies in Sabah under the 2016 Redelineation Proposal (First Display) (Measured as Deviation from the State Average)

Graph 13E: Malapportionment of State Constituencies in Sabah under the 2016 Redelineation Proposal (First Display)

Legend:
- Proposed Electorate Size
- Average (13,640)
- Average +33% (18, 187)
- Average -33% (9,093)

Graph 13F: Malapportionment of State Constituencies
in Sabah after the 2003 Redelineation Exercise
(Measured as Deviation from the State Average)

Graph 13G: Malapportionment of State Constituencies in Sabah during the 2013 General Election (Measured as Deviation from the State Average)
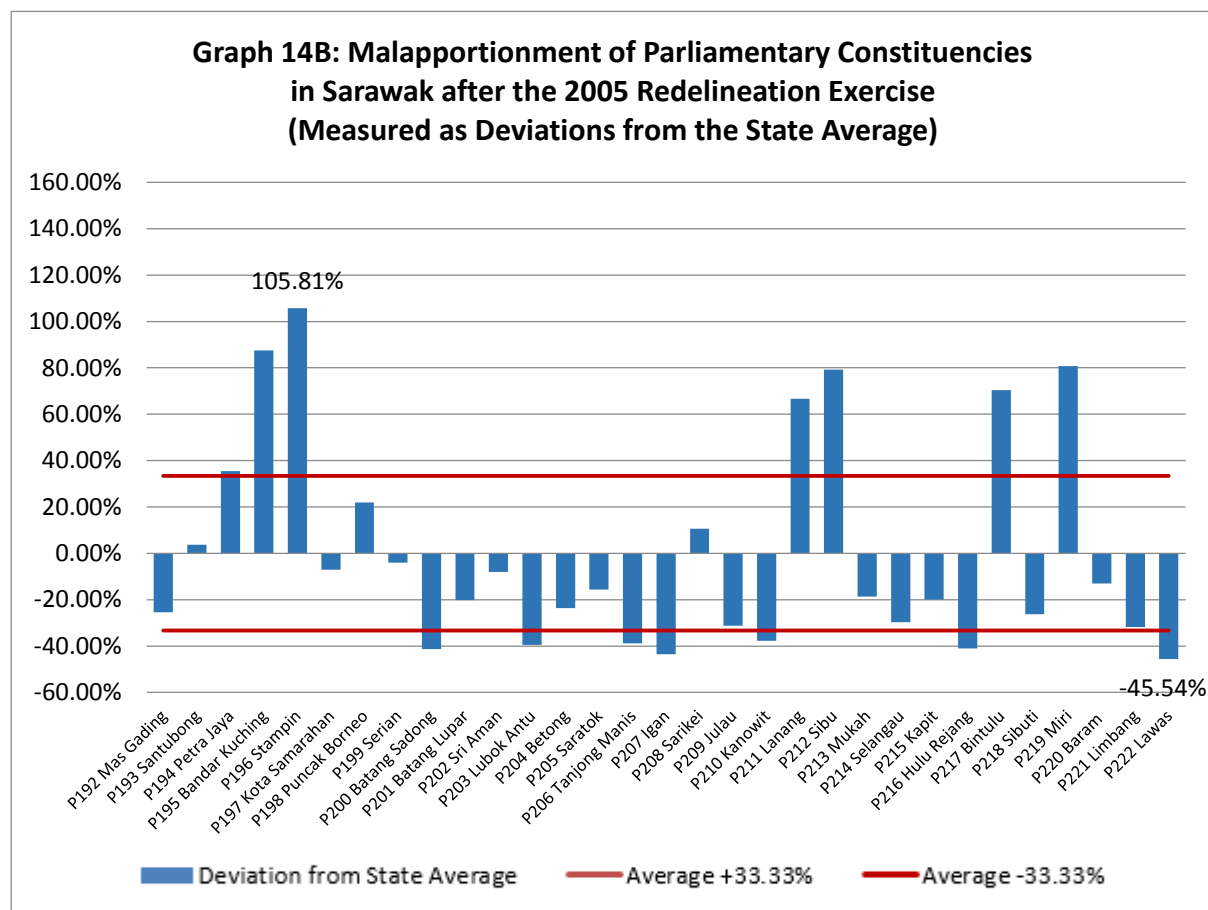
Graph 13H: Malapportionment of State Constituencies in Sabah under the 2016 Redelineation Proposal (First Display) (Measured as Deviation from the State Average)
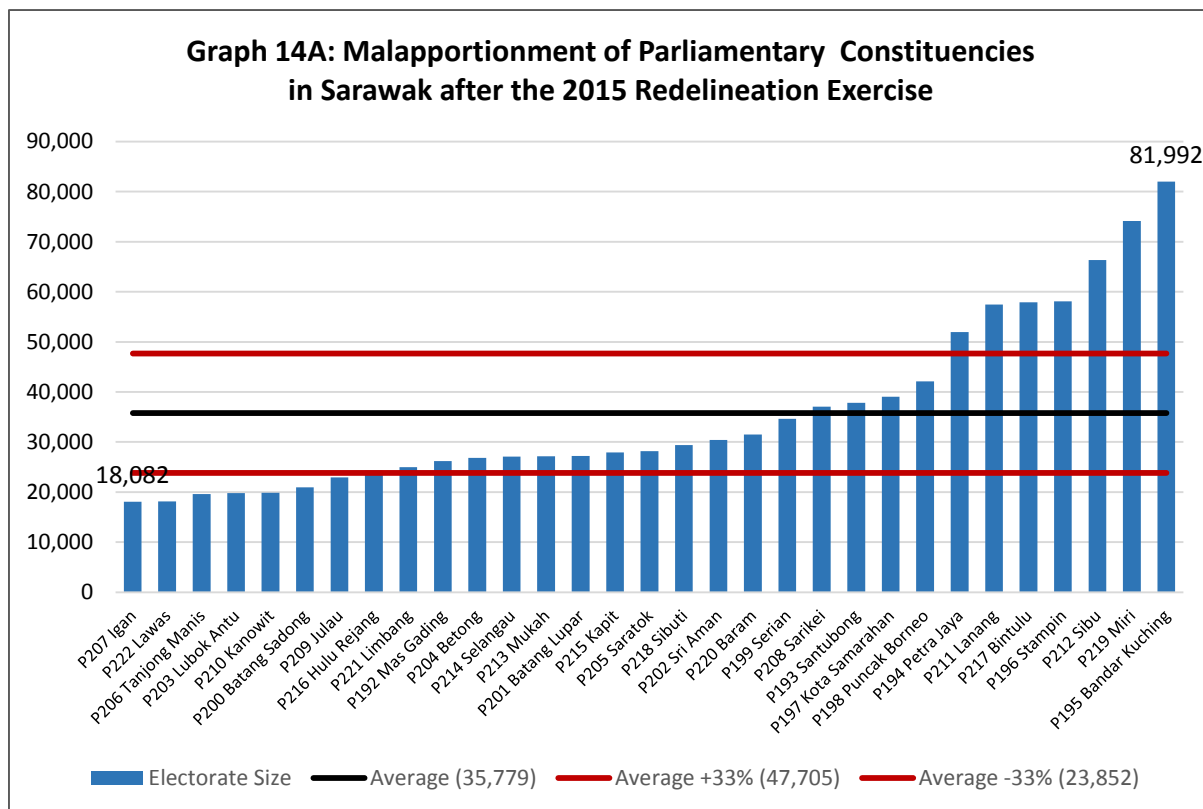
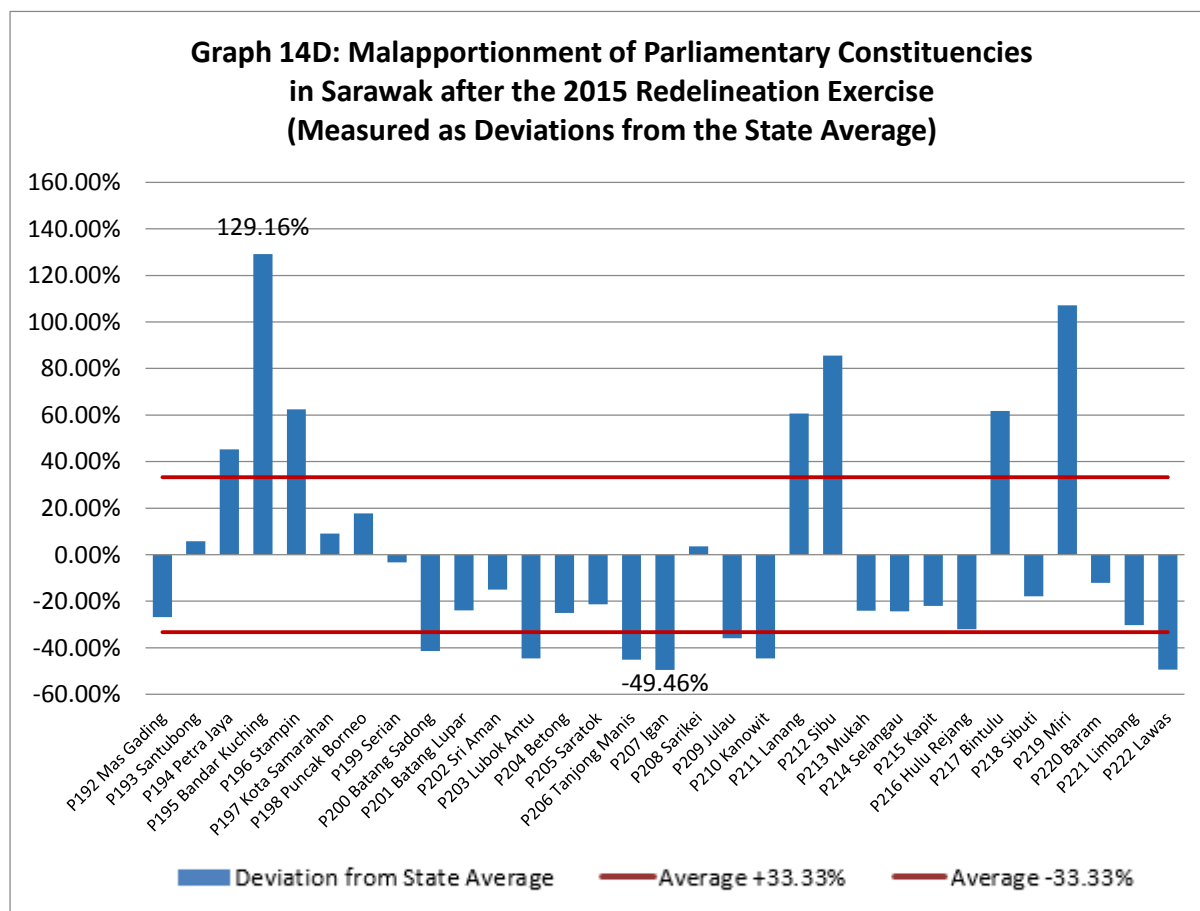**Map 13A: Draft Plan for Parliamentary and State Constituencies – Sabah**

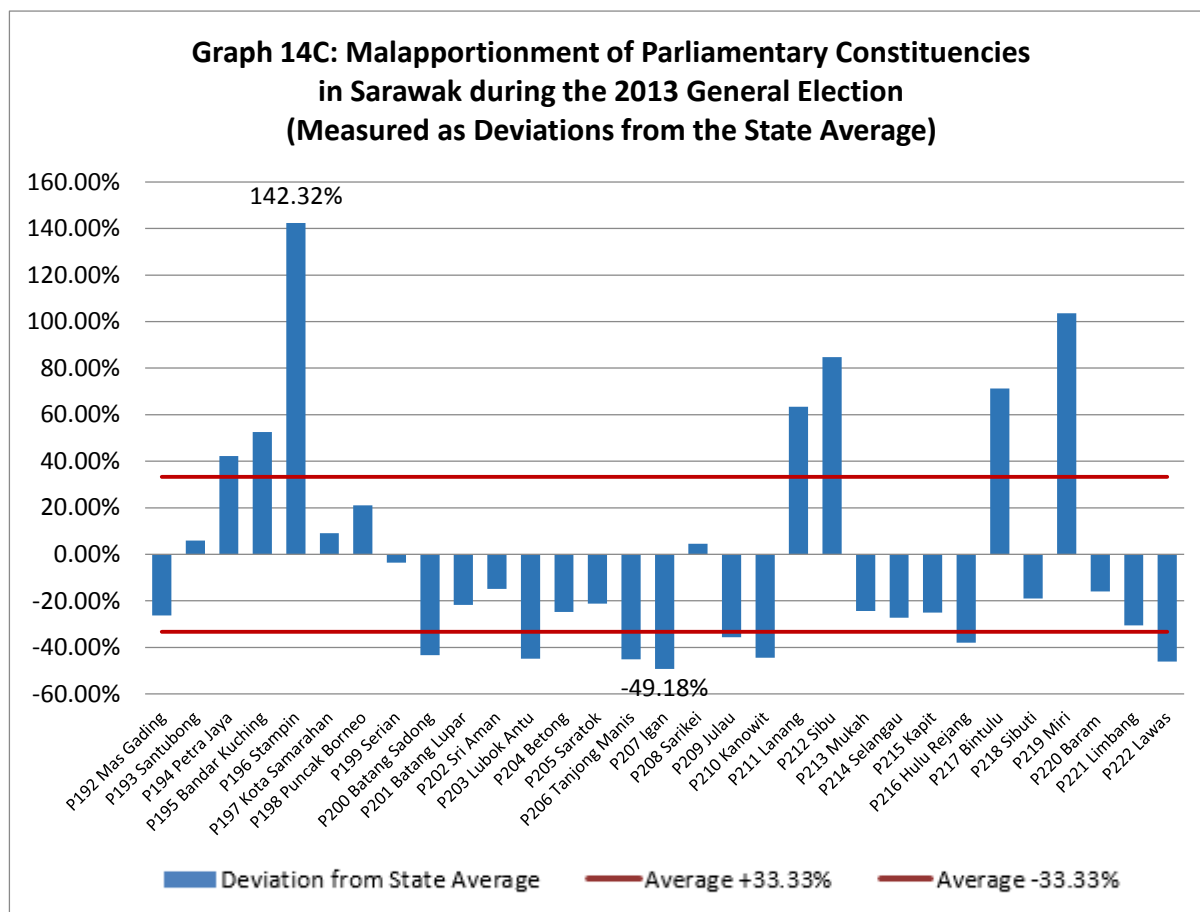**Map 13B: Identified and Suspected Boundary Changes for State Constituencies in Sabah**
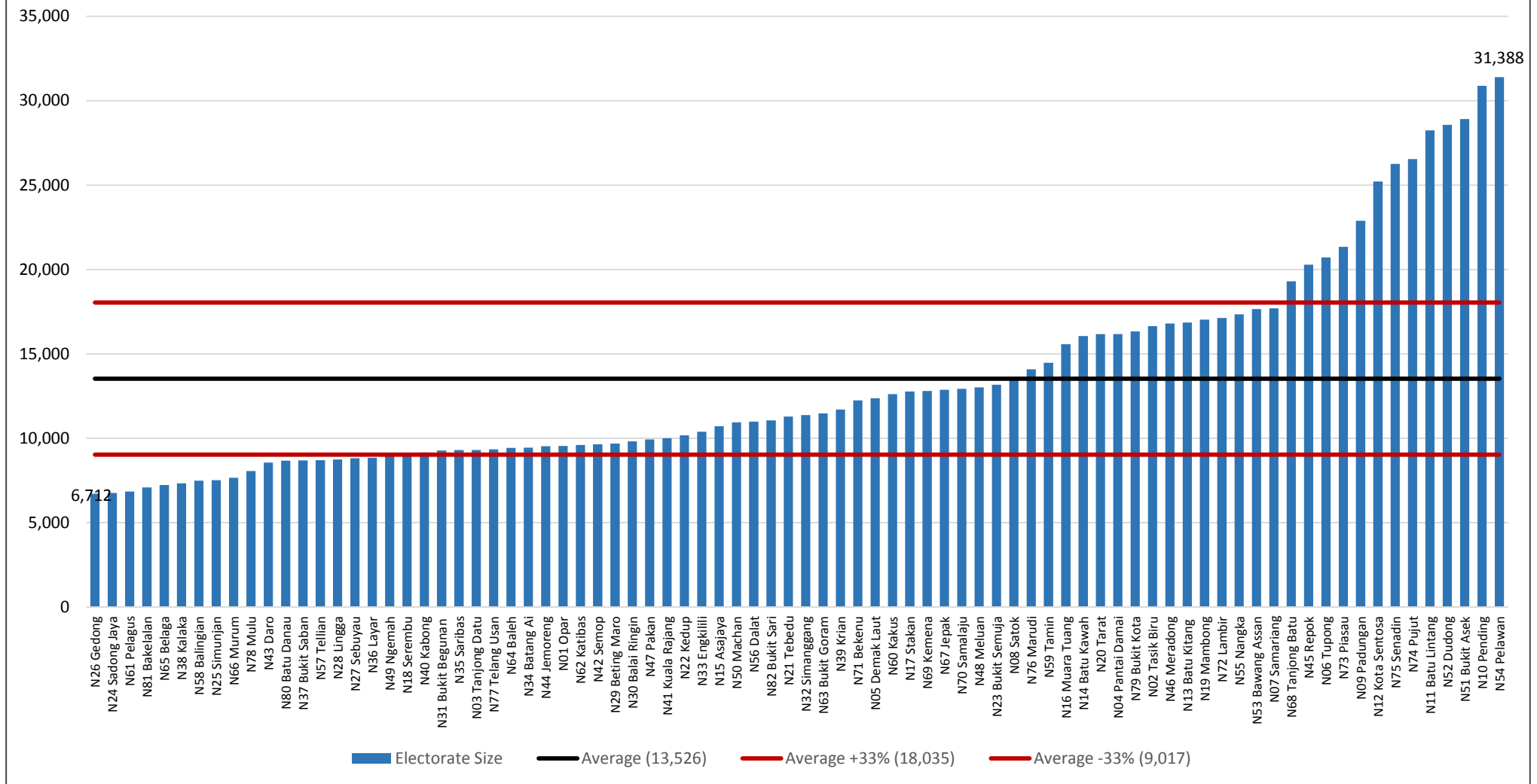

Source: Bersih 2.0 Redelineation and Action Research Team, 2016

APPENDIX 14

Graph 14A: Malapportionment of Parliamentary Constituencies in Sarawak after the 2015 Redelineation Exercise

81,992

18,082

Electorate Size — Average (35,779) — Average +33% (47,705) — Average -33% (23,852)

Graph 14B: Malapportionment of Parliamentary Constituencies in Sarawak after the 2005 Redelineation Exercise (Measured as Deviations from the State Average)

105.81%

-45.54%

Deviation from State Average — Average +33.33% — Average -33.33%

**Graph 14C: Malapportionment of Parliamentary Constituencies
in Sarawak during the 2013 General Election
(Measured as Deviations from the State Average)**

**Graph 14D: Malapportionment of Parliamentary Constituencies
in Sarawak after the 2015 Redelineation Exercise
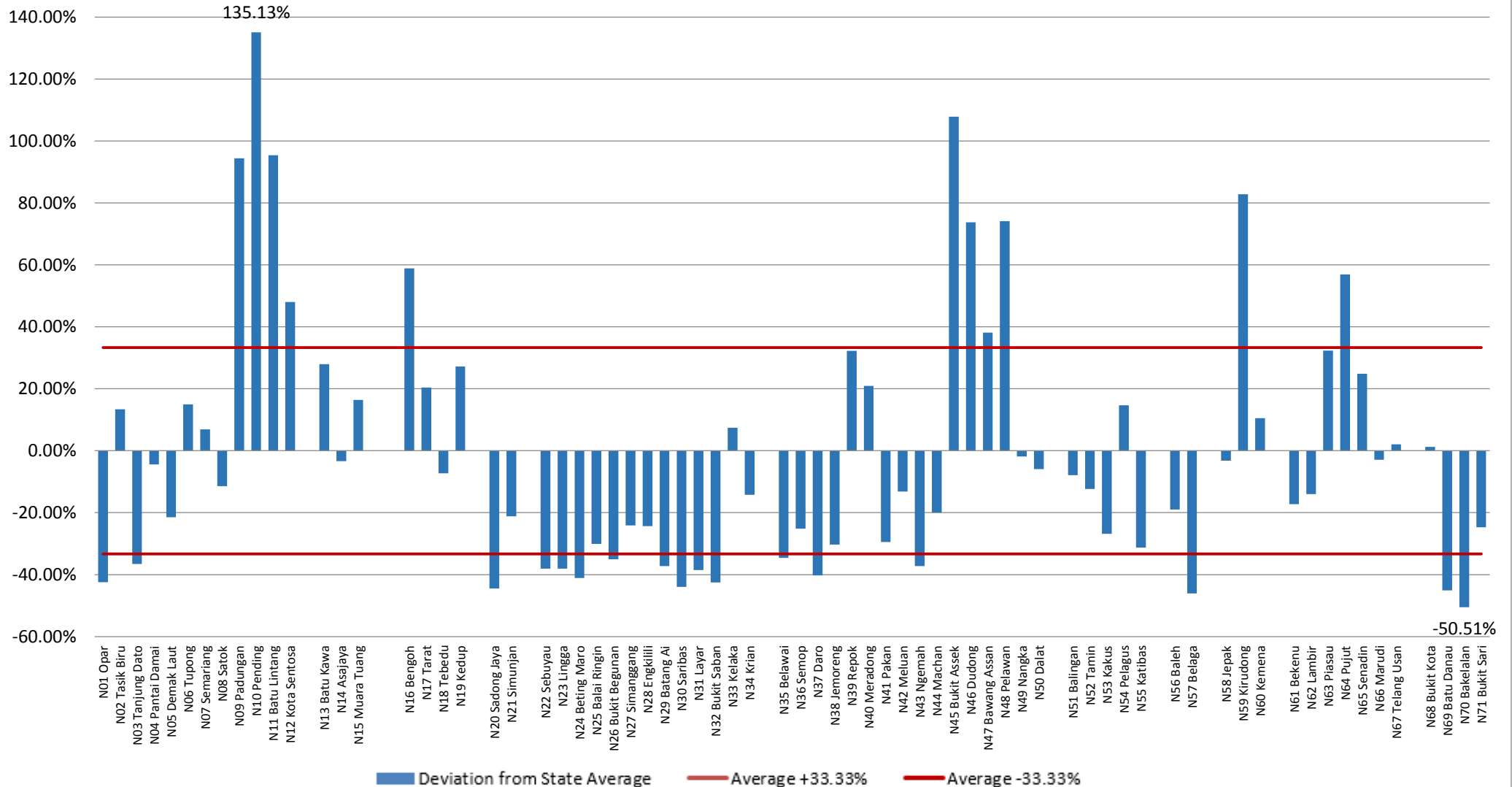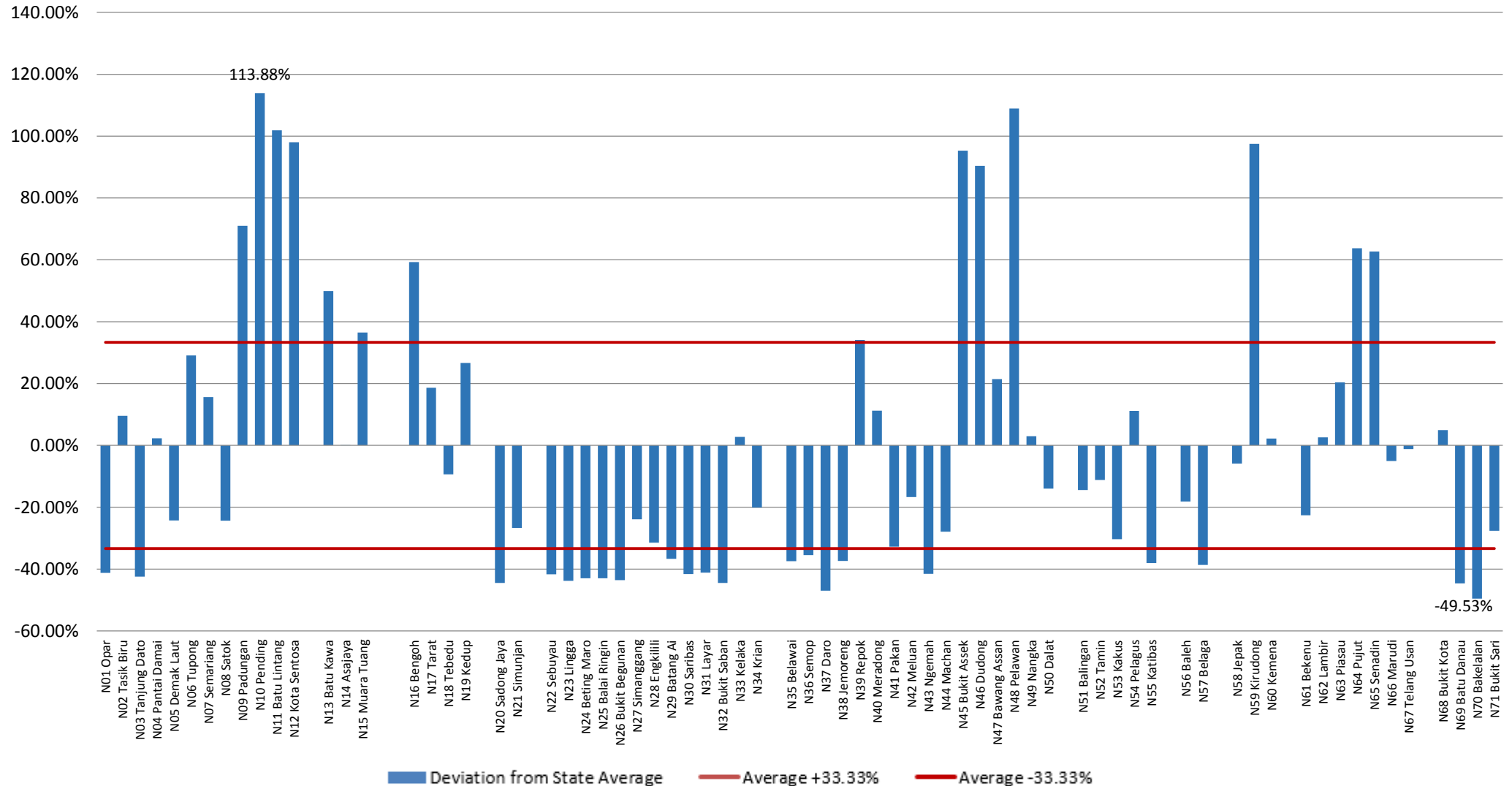(Measured as Deviations from the State Average)**

Graph 14E: Malapportionment of State Constituencies
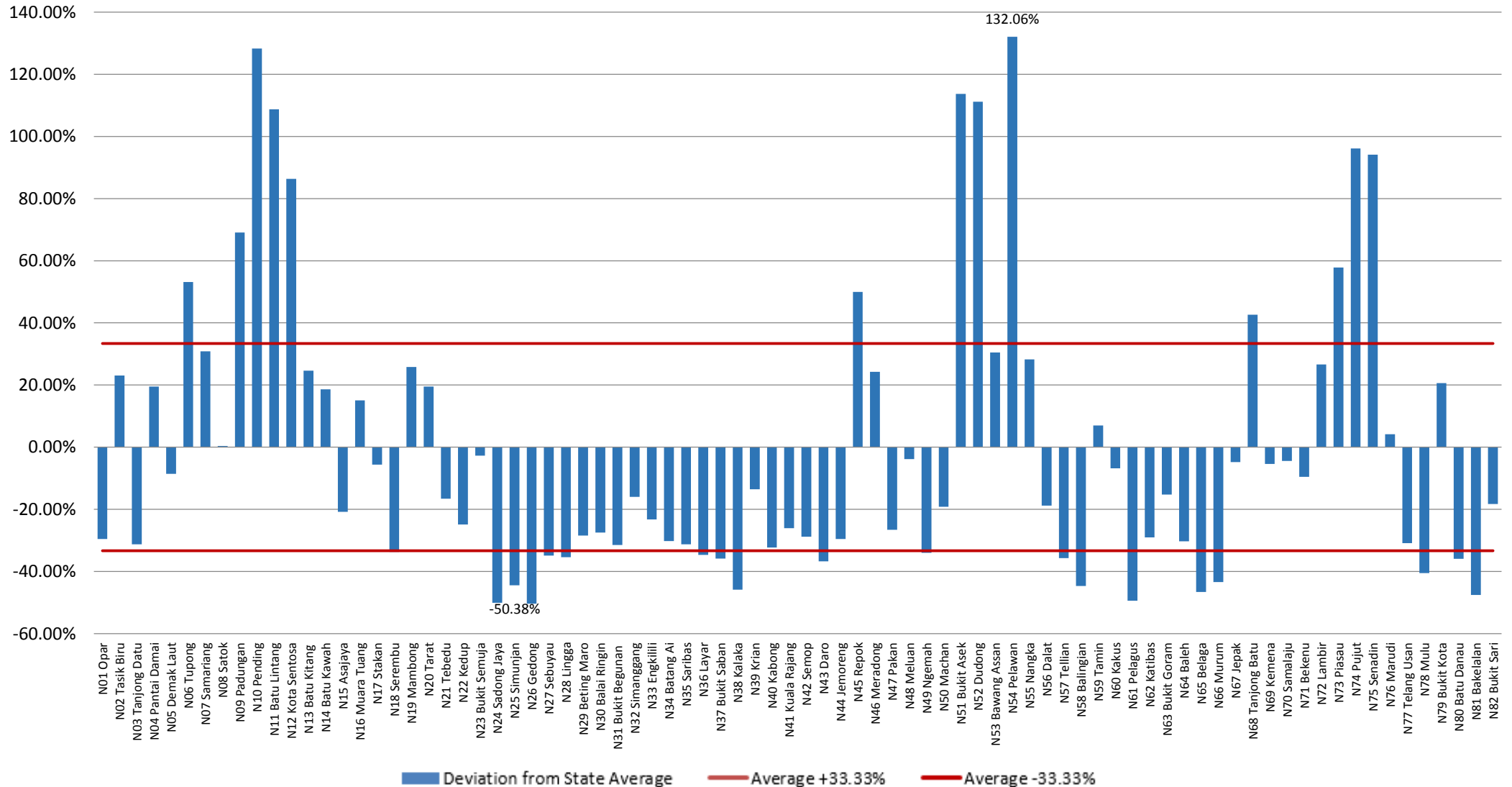in Sarawak after the 2015 Redelineation Exercise

Graph 14F: Malapportionment of State Constituencies
in Sarawak after the 2005 Redelineation Exercise
(Measured as Deviations from the State Average)

Graph 14G: Malapportionment of State Constituencies in Sarawak during the 2011 State Election (Measured as Deviations from the State Average)

Graph 14H: Malapportionment of State Constituencies
in Sarawak after the 2015 Redelineation Exercise
(Measured as Deviations from the State Average)

Map 14: Draft Plan for Parliamentary and State Constituencies – Sarawak