Memo

To: Warwick McNaughton, Democracy Services

From: Ting Huang, Research and Evaluation Unit (RIMU)

Re: Order of candidate names on voting documents

The Research and Evaluation Unit (RIMU) has been asked to undertake an analysis of the impacts of candidate order on election outcomes (ballot order effects) in the last three Auckland Council elections (2010, 2013 and 2016). The findings will be used to inform Democracy Services on options and recommendations for ordering candidate names on the ballot papers and online voting for the 2019 Auckland Council election.

1.0   Current situation

Auckland Council issues a postal ballot paper with an accompanying candidate information booklet. Voters fill out the ballot paper – selecting their preferred candidate(s) for mayor, ward and local board[1] – and return the form in a pre-addressed envelope.

Currently, local authorities in New Zealand are able to choose from the following methods of ordering names on the ballot paper and candidate booklet:

1. Alphabetical
2. Pseudo-random (the names are randomised and the same random list printed on each voting document)
3. True-random (each voting document has a different random order of names).

To date, Auckland Council has ordered both ballot paper and booklet alphabetically. Democracy Services is currently preparing a report for the Governing Body on options and recommendations for voting document ordering in 2019. A report on developing the online voting trial for 2019 is also currently underway.

In January 2016, RIMU undertook an assessment of the academic research on whether candidate order impacts election outcomes and an analysis of Auckland Council election statistics from 2010 and 2013. Whilst a large number of international research studies suggest that candidates listed first were more likely to be elected, the analysis of Auckland Council election data showed no compelling evidence for this effect in the 2010 and 2013 elections.

2.0   Analysis of Auckland Council election data

Replicating the same methodology used in RIMU's previous analysis in January 2016, the following analyses were conducted for the last three Auckland Council elections (2010, 2013 and 2016):

- The impact of ballot position on the *number of votes received* by candidates (i.e. the impact on the vote share)

---

[1] Along with their selections for District Health Board and Licencing Trust, where applicable.

- The impact of ballot position on whether an individual was *elected or not* (i.e. the impact on election outcomes).

An important consideration when interpreting these analyses is that the 'sample size' (number of wards and local boards) for these three Auckland Council elections is relatively small. This means that there is likely to be a greater amount of 'noise' in the data, than in analyses with larger sample sizes. This increased noise means that it is harder to determine whether patterns in the data are real impacts of candidate order or are due to 'other factors' (including large individual candidate effects and random variation).

The analyses below include a total of 1413 candidates, of whom 498 were elected. A total of 36 wards and 94 local boards (counting subdivisions separately) were included in the analysis. The mayoral election races from all three years were not included.

4.1   Impact on vote share
The first analysis investigated whether ballot paper order had an effect on candidates' vote share.

The analysis compared the percentage of votes received by candidates in each ballot paper position with the expected percentage share of votes, absent any order effects.[2]

The difference between actual and expected vote shares can be seen in Figures 1-3. The overall analysis in Figure 1 suggests that being listed first appears to increase a candidate's vote share by an average of 1.0 percentage point. Middle ballot positions deviate from the expected vote share[3] in a random manner by approximately ±0.5%. Candidates listed in later ballot positions appear to receive slightly lower vote share than expected. However, given the variability across the whole graph, findings presented here should be interpreted with caution.

---

[2] The expected share of votes for each candidate was calculated for each ward and local board separately, by dividing 100% by the number of candidates in the given ward/local board (in effect, assuming an equal distribution of votes within a given ward or local board). This method enabled a comparison of the percentage of votes actually received by candidates in each ballot position with the expected share of votes. The actual vote shares and expected vote shares were then averaged for all candidates in a given ballot position. A difference from expected vote share was then calculated for each position by subtracting the mean actual vote share from the mean expected vote share.

[3] Note, percentage vote share here refers to the absolute increase or decrease in the percentage of votes received. For example, a 1 percentage point effect means that a candidate who would have otherwise received 15% of the vote receives 16%, while a candidate who would otherwise receive 60% of the vote receives 61%.

Figure 1. Mean difference between actual and expected vote share percentages for candidates in each ballot paper positon (wards and local boards combined).
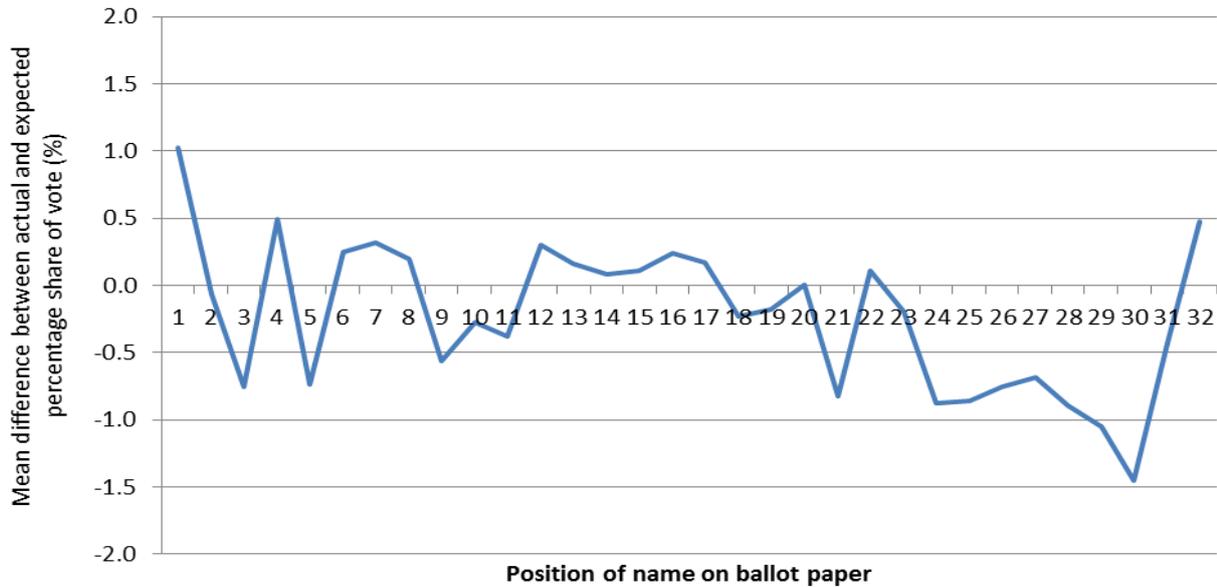
Wards and local boards were also analysed separately to see if there were any differences in the effects. Figures 2 and 3 show local boards and wards, respectively.

Analysis for the local boards in Figure 2 appears to show some impact of being listed first for local boards, while the ward analysis does not show any discernible pattern. This was possibly due to the small sample size and/or large candidate-specific effects that outweigh any ordering effects.

For local boards, the findings suggest similar patterns of ordering impact to those observed in the overall analysis in Figure 1. Being first candidate in the list increased the candidate's vote share by 1.2 percentage points. Middle ballot positions appear to be 0.5% below or above the expected vote share in a seemingly random manner, while in very large local board races later positions appear to receive a lower vote share than expected. Again, the small effect identified in Figure 2 should be interpreted with caution given the variability across the whole graph.

Figure 2. Mean difference between actual and expected vote share percentages for candidates in each ballot paper positon (local boards).
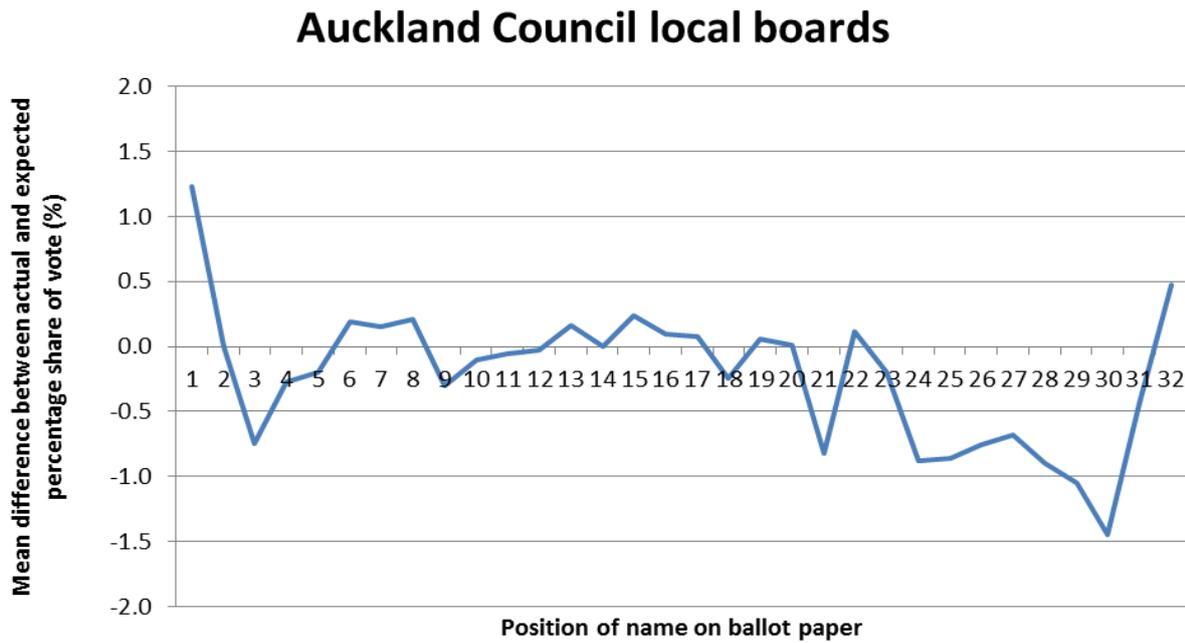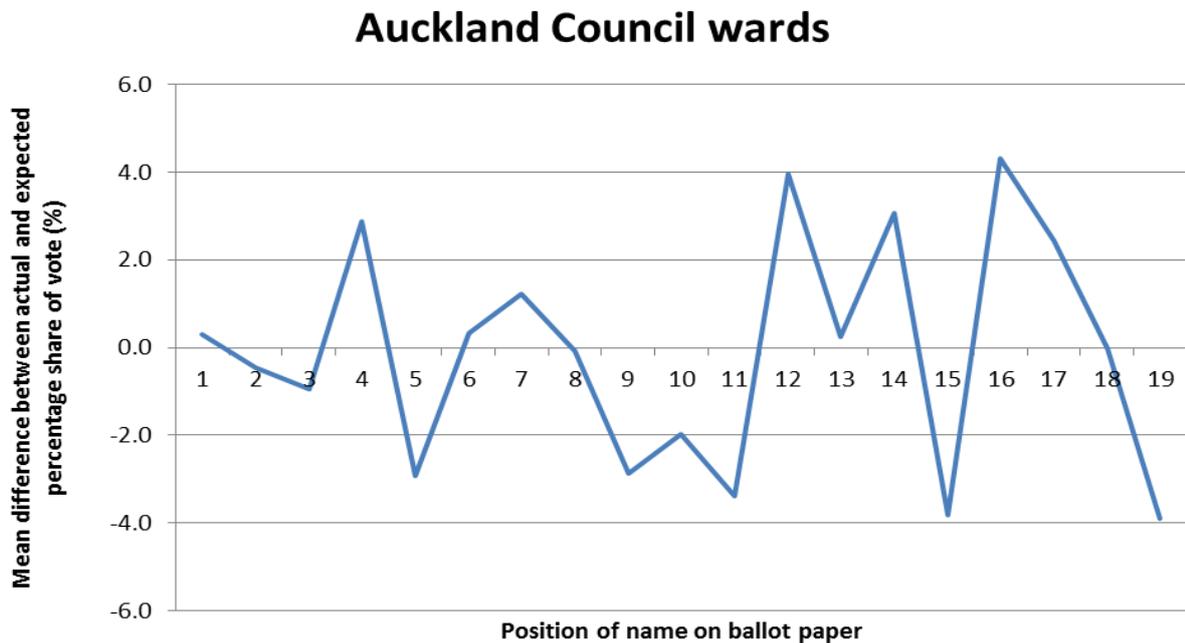
Auckland Council local boards

Figure 3. Mean difference between actual and expected vote share percentages for candidates in each ballot paper positon (wards).

Auckland Council wards

4.2   Impact on election outcomes

The second analysis investigates whether being listed first on Auckland Council ballot papers provides any advantage to candidates with regard to likelihood of being elected.

In this analysis the number of first-listed candidates who were actually elected was compared with the number of first-listed candidates that we would expect to have been elected, absent any order

effects.[4] Overall, a total of 50 first-listed candidates were actually elected to their respective ward or local board, which was similar to the total of 47 first-listed candidates that we would have expected to have been elected by chance alone.

Statistically, a chi-square goodness of fit test showed that the number of first-listed candidates elected did *not* differ significantly from the expected number, χ^2 (1, *N* = 498) = 0.21, *p* = .65. The pattern remained consistent when wards and local boards were separated.

The third analysis looked at whether candidates with names earlier in the alphabet were more likely to be elected. The candidate pool was split into four approximately equal-sized groups, and the number of candidates elected from within each group was compared to the expected number of elected candidates, from that group (see Table 1).[5]

Table 1. Actual vs. expected number of candidates elected by letter of last name.

	Total number of Candidates	*Actual* number of candidates elected	*Expected* number of candidates elected
A through D	377	144	133
E through L	377	136	133
M through R	331	98	117
S through Z	328	120	116

A chi-square goodness of fit test showed that the actual numbers of candidates elected within each group did *not* differ significantly from the expected number, χ^2 (3, *N* = 498) = 4.16, *p* = .24. A similar non-significant pattern was found when wards and local boards were separated.

In summary, neither analysis above shows any observable effect of candidate order on actual election outcomes (i.e. whether candidates were elected or not).

3.0   Summary of findings and considerations for 2019

The three different analyses of Auckland Council elections data show that while there might be a small impact of being listed first on the percentage share of votes received in local board elections, there is no compelling evidence that candidates being listed first were more likely to be elected in the last three elections.

It is important to note that, because of the relatively small sample size, these analyses are less be able to detect subtle but real effects. Therefore conclusions should be drawn with caution. However, it is reasonable to conclude that results from the last three elections were not impacted dramatically by the use of alphabetical ordering on voting documents.

---

[4] The number of first-listed candidates that we would expect to have been elected was calculated within each ward or local board, by dividing the number of seats by the number of candidates vying for seats. For example, for a local board with 4 seats and 8 candidates, the probability of the first-listed candidate being elected if voting was random is 0.5. When summed across all wards and local boards, these probabilities tell us the total number of first-listed candidates that we would expect to have been elected if seats were assigned randomly and therefore there were no impacts of candidate order.

[5] The number of candidates that we would expect to have been elected from each group was calculated by dividing the number of candidates in that group by the total number of candidates (1413), and multiplying the product by the total number of elected candidates (498). For example, for the 'A through D' group, which had 262 candidates, the expected count was calculated: (377/1413)*498 = 132.87.

Regarding the decision of candidate order in the 2019 election, it is important to highlight the overwhelming amount of research that shows behavioural 'follow-through' is negatively related to effort.[6] That is, the harder something is to understand and do, the less likely someone is to do it.

It is important, therefore, to consider the relative ease/difficulty of different options. One particular consideration is the ease of navigating the ballot paper along with candidate information. For printed postal elections, the candidate booklet must remain ordered alphabetically, which will be inconsistent with the ballot paper should random order be implemented. This inconsistency may result in some confusion amongst voters as they compare an alphabetical candidate booklet with a randomised ballot paper. This confusion is likely to negatively impact voter turnout.

An online voter trial may provide an opportunity to randomise candidate names without making the process of selecting preferred candidates more difficult.

Contact
If you have any queries please do not hesitate to contact Ting Huang, on ting.huang@aucklandcouncil.govt.nz.

4.0   References

The Behavioural Insights Team (2014). *EAST: Four Simple Ways to Apply Behavioural Insights*. Retrieved from: https://38r8om2xjhhl25mw24492dir-wpengine.netdna-ssl.com/wp-content/uploads/2015/07/BIT-Publication-EAST_FA_WEB.pdf

---

[6] https://www.behaviouralinsights.co.uk/publications/east-four-simple-ways-to-apply-behavioural-insights/