Yukon Citizens' Assembly on Electoral Reform

Final Report 2024

Appendix A:

Yukon Electoral System Scenarios

Provided By
Jonathan Rose, Queen's University
Laura Levick, St. Thomas University

First-Past-the-Post (FPTP)

How does it work in The Yukon?

Yukon Citizens' Assembly on Electoral Reform

Working Paper on Elections Modelling

Part 1 of 4

FPTP – AV – AV/STV – MMP

Jonathan Rose, Queen's University
Laura Levick, St. Thomas University

Appendix A: Yukon Electoral System Scenarios

Table of Contents

What is First-Past-the-Post?

First-Past-the-Post or FPTP works by dividing a territory into geographic areas called electoral districts or ridings. There usually are as many electoral districts as there are seats in the legislature, and vice versa. Each district holds its own election to pick a local representative. The candidate who receives the most votes in each district wins.

Where is FPTP used?

First-Past-the-Post, also known as single member plurality, is used in the United Kingdom, the United States, Canada, India, and much of the English-speaking Caribbean.

How does FPTP work?

Example Ballot: FPTP, Courtesy Elections Yukon

Ballot Structure

In FPTP, voters choose a single candidate to represent their district or riding. Most candidates are affiliated with political parties, but voters choose an individual rather than a party, as the sample Elections Yukon ballot to the right makes clear.

Voters indicate their preferred candidate's name on the ballot. Only one choice is allowed; any additional markings spoil (or invalidate) the ballot.

District Magnitude

> **District magnitude** refers to the number of candidates elected per district.

While there is a general election, each district holds its own separate election. In FPTP, the number of candidates elected per district is usually one because there is only one winner per district. Thus, **district magnitude** is one.

Electoral Formula

The winner of each local election is determined by the principle of "most votes wins." The exact number of votes required is at least one more than the second place candidate.

In the event of a tie, the winner is determined by the drawing of lots. Mathematically speaking, the smaller the population of an electoral district, the greater the likelihood of a tie.

FPTP is sometimes known as Single Member Plurality or SMP. This is because winning candidates must receive a **plurality** of votes to be elected, meaning they need to get more votes than any other candidate. Thus, it is possible to win a seat without getting a **majority** (more than 50%) of the votes in that district.

Government Formation

Because each district holds a separate election for their local seat, there can be differences between a party's overall share of the vote and its share of the seats in the legislature. This

Proportionality refers to the *proportion* of seats a party wins in the legislature compared to the *proportion* of the overall vote it received. For example, if a party won 35% of the vote but 60% of the seats, that result would be highly **disproportional**, since the difference is substantial.

disproportionality tends to benefit larger parties and small parties whose voter base is concentrated in a particular region. It tends to disadvantage smaller parties whose voters are more widely dispersed.

Because of this discrepancy, it is not always the case that the party that wins the most votes will also win the most seats. In the same way, it is also possible for a party to win a majority of the seats without necessarily winning a majority of the overall votes.

It is typical for the largest party to form a government after an election. If a single party wins a majority of the seats, that party will form a majority government. Majority governments generally have an easier time passing legislation, as they are not required to compromise with opposition parties.

This has both advantages and disadvantages. On the one hand, it is clear who should be held accountable if a majority government does not follow through with its campaign promises. On the other hand, however, while opposition parties can criticize legislation, their suggestions and preferences may be largely ignored by government, leaving their voters frustrated.

A **confidence and supply agreement** is an arrangement whereby a smaller party agrees to support a minority government in key votes without formally joining government. In contrast, a **coalition** involves multiple parties forming a government together, sharing cabinet posts.

A feature of FPTP is that it "manufactures" majorities – majority governments are quite likely even when the winning party doesn't have the support of the majority of the electorate; the trade off is that the system does so by disadvantaging smaller parties. In extreme cases, the "bonus" that large parties get from FPTP can lead to very lopsided results. For example, in the 1987 New Brunswick election, the Liberal Party won all 58 seats in the

provincial legislature. In such cases, it can be difficult for opposition parties to hold the government to account.

If no single party wins a majority of the seats, the largest party may form a minority government. In such cases, the largest party must rely on the support of one or more smaller parties when passing legislation. This can be done on an ad hoc basis, with governments seeking support for each individual bill, or on a continuing basis, where parties form what is known as a **confidence and supply agreement**. Occasionally, parties may choose to form a coalition government, but this is quite rare in Canada.

Minority governments, coalitions and supply and confidence agreements also have advantages and disadvantages. On the one hand, input from smaller opposition parties ensures that a wider diversity of opinion is represented in the resulting legislation. On the other hand, the compromise required to negotiate opposition support can make it difficult for voters to attribute blame, or reward, for particular policies. These governments (especially minority governments) may be comparatively short-lived, requiring more frequent elections.

How does FPTP work in the Yukon?

FPTP is currently used in Yukon territorial elections. It has been used in its current form since at least 1978. Prior to that, the territory was governed by a federally appointed Commissioner advised by the non-partisan Territorial Council. Seats on the Council were directly elected and each seat represented a geographic area. However, prior to 1967 it was not unusual for an electoral district to have more than one representative on the Council, which is not how FPTP typically works today.

Under FPTP, the Yukon is currently divided into 19 electoral districts or ridings. Each district holds a separate vote to select a single, local representative to the territorial legislature. There are currently 11 electoral districts in Whitehorse and 8 rural districts.

The cumulative results of the 2011, 2016, and 2021 elections are summarized in the table below, which details the number and **proportion** of seats and votes received by each party.

Table 1: Yukon Election Results

2021 Election

Party	Total Votes	% Votes	Total Seats	% Seats
YUKON PARTY	7,477	39.3%	8	42.1%
YUKON LIBERAL PARTY	6,155	32.4%	8	42.1%
YUKON NDP	5,356	28.2%	3	15.8%
INDEPENDENT CANDIDATES	26	0.1%	0	0.0%
Total	19,014	100%	19	100%

2016 Election

Party	Total Votes	% Votes	Total Seats	% Seats
YUKON PARTY	6272	33.4%	6	31.6%
YUKON LIBERAL PARTY	7404	39.4%	11	57.9%
YUKON NDP	4927	26.2%	2	10.5%
YUKON GREEN PARTY	145	0.8%	0	0.0%
INDEPENDENT CANDIDATES	38	0.2%	0	0.0%
Total	18,786	100%	19	100%

2011 Election

Party	Total Votes	% Votes	Total Seats	% Seats
YUKON PARTY	6400	40.4%	11	57.9%
YUKON LIBERAL PARTY	4008	25.3%	2	10.5%
YUKON NDP	5154	32.6%	6	31.6%
YUKON GREEN PARTY	104	0.7%	0	0.0%
YUKON FIRST NATIONS PARTY	81	0.5%	0	0.0%
INDEPENDENT CANDIDATES	79	0.5%	0	0.0%
Total	15,826	100%	19	100%

The election results reported above are typical of both Yukon elections and elections under FPTP, more generally. Note the **disproportionality** in the table which is the difference between the percentage of votes and percentage of seats.

In FPTP, **disproportionality** tends to benefit larger parties, as they typically receive a greater share of the seats than they would otherwise get based on their share of the vote. This makes it possible for a party to win a majority of the seats without necessarily winning a majority of the votes. Such **manufactured majorities** are common in places that use FPTP. However, that is

Manufactured majorities occur when a party that did not win a majority of the votes still manages to win a majority of the seats. For example, in 2016, the Liberal Party won 10 out of 19 seats (52.6%) with 39.4% of the popular vote.

In FPTP, sometimes the party that won the most votes does not win the most seats and therefore does not form a government. This is referred to as a **wrong winner election (**or plurality reversal). This outcome is not unusual in FPTP elections.

In Canada, both the 2019 and 2021 federal elections are examples of wrong winner elections. Although the Conservative Party won more votes, the Liberal Party won the most seats.

not always the case. For example, the Yukon Party benefitted from the disproportionality of FPTP in 2011 but was disadvantaged in 2016.

There have also been two Yukon elections (in 1985 and 2021) in which the party that formed government did not have the largest share of the vote. This type of outcome, known as a **wrong winner** election, is not unusual in places that use FPTP.

How does FPTP align with the values of the Yukon Citizens' Assembly?

Different electoral systems have different strengths and weaknesses and embody different principles and values. As part of its deliberations, the Yukon Citizens' Assembly has articulated several values that any new electoral system ought to reflect. Among these, the Yukon Citizens' Assembly has prioritized three core values: legitimacy, fairness, and local representation/accountability.

Legitimacy

Legitimacy comes from following procedures fairly and impartially, regardless of the electoral system. Beyond that, the way voters perceive the results and procedures also matters. How do Yukon residents feel about FPTP? Do ordinary voters understand the procedures and consider them to be just and rightful?

To answer this question, we turn to the results of the May 2022 survey prepared for the Special Committee on Electoral Reform of the 35th Yukon Legislative Assembly by the Yukon Bureau of Statistics. The survey polled all Yukon residents aged 16 years and over, and received a response rate of 17.1%.

The results provide some key information about how voters feel about the current FPTP system. When asked whether FPTP should be maintained, 25.1% of respondents agreed or strongly agreed, compared to 41.8% disagreed or strongly disagreed.

When asked whether FPTP adequately reflects voters' intentions, 29.5% of respondents agreed or strongly agreed while 41.4% disagreed or strongly disagreed. However, 29.2% of respondents agreed or strongly agreed that their vote is wasted if the candidate they vote for does not win in their riding, while 48.3% disagreed or strongly disagreed.

Local Representation

Among the other relevant questions, the survey also asked about local representation and government formation. 78.4% agreed or strongly agreed that Yukon's electoral system should ensure that voters elect local candidates to represent them, while 4.8% disagreed or strongly disagreed, suggesting a strong preference for local representation.

While respondents were divided over their preferences for majority or minority government, most respondents agreed that Yukon's electoral system should ensure both local representation and proportional representation. Taken as a whole, the results of the survey suggest that Yukon voters have some concerns about FPTP.

Fairness

Fairness involves both procedure and perception. Like legitimacy, fairness is based on both procedure and perception. Procedural fairness is possible using any system, including FPTP.

The basic logic of "most votes wins" can be reasonably claimed to be fair. However, whether the outcome of an election is seen to be fair is based on how well the result aligns with the values of voters. Extremely disproportional outcomes and so-called plurality reversals are often criticized as unfair. Importantly, although these results are fair at a local level, the aggregation of a series of fair local outcomes can lead to unfairness at the territorial level, through the wrong winner problem discussed previously or high levels of disproportionality.

If, as the May 2022 survey found, a substantial minority of voters feel as though their vote does not count or only counts some of the time (48.4%), that points to a perceived problem of unfairness. So does the fact that 71.6% of respondents agreed or strongly agreed that Yukon's electoral system should result in a proportional relationship between a party's vote share and seat share (which it currently does not). Thus, disproportionality and the degree to which FPTP adequately reflects voters' intentions may be seen as weaknesses of FPTP due to perceived unfairness.

Transparency

While the voting in each electoral district is intuitive and transparent, taken across the territory, the results of a general election might be counter-intuitive if an opposition party receives more votes than the governing party.

Participation

Because voters are only given one categorical choice on their ballot, they may not vote if their candidate or party does not stand a chance in winning. The logic of rewarding larger parties in FPTP may dissuade supporters of smaller parties to vote.

Simplicity/Accessibility

FPTP is a very simple to vote in. Because it does not permit differentiating between a party and candidate, or allow for more complex voting (like ranked voting), it is a very easy intuitive system at the local level.

What are the potential unintended consequences of FPTP?

Although FPTP is currently used in the Yukon, it does have unintended consequences. The most obvious example is the occurrence of so-called **wrong winner** elections, in which one party wins more votes but another wins more seats. Extremely disproportional outcomes may also be an unintended consequence.

FPTP systems tend to favor larger parties and contribute to a two-party system, marginalizing smaller parties and reducing political diversity in the legislature. As a result, voters might engage in **strategic voting**, choosing a less-preferred major party candidate over their preferred minor party candidate to prevent their least preferred major party from winning.

> **Strategic voting** occurs when a voter supports a candidate they think has a better choice of winning as opposed to their actual preferred choice, in order to prevent an undesirable candidate from winning. It is the opposite of **sincere voting**.

FPTP also tends to reward parties with geographically concentrated support while penalizing those with widespread but thin support. This can lead to regional imbalances and a lack of representation for parties with a broad but diffuse voter base. By contrast, minority groups may find it harder to gain representation in FPTP systems compared to proportional systems. The need for broad appeal in single-member districts can lead to the underrepresentation of minority interests and perspectives.

District	Reg Electors	Yukon Party		Yukon Liberal Party		Yukon NDP		Independent		Vote total
Appendix A: 2021 Yukon Election Results by Candidate and Party										
Copperbelt North	2,120	Currie Dixon	717	Ted Adel	346	Saba Javed	318	N/A	0	1,381
Copperbelt South	1,723	Scott Kent	726	Sheila Robertson	259	Kaori Torigai	289	N/A	0	1,274
Klondike	1,583	Charlie Dagostin	364	Sandy Silver	526	Chris Clarke	224	N/A	0	1,114
Kluane	1,050	Wade Istchenko	352	Luke Campbell	219	Dave Weir	211	N/A	0	782
Lake Laberge	1,719	Brad Cathers	799	Tracey Jacobs	229	Ian Angus	259	N/A	0	1,287
Mayo-Tatchun	1,035	Peter Grundmanis	186	Jeremy Harper	238	Patty Wallingham	208	N/A	0	632
Mt Lorne- Southern Lakes	1,618	Eric Schroff	406	John Streicker	446	Erik Pinkerton	292	N/A	0	1,144
Mountainview	1,623	Ray Sydney	268	Jeanie Dendys	402	Michelle Friesen	356	Jan Predeitis	26	1,052
Pelly-Nisutlin	1,007	Stacey Hasard	362	Katherine Alexander	97	George Bahm	254	N/A	0	713
Porter Creek Centre	2,477	Yvonne Clarke	704	Paolo Gallina	646	Shonagh McCrindle	334	N/A	0	1,684
Porter Creek North	2,019	Geraldine Van Bibber	562	Staci McIntosh	331	Francis van Kessel	250	N/A	0	1,143
Porter Creek South	921	Chad Sjodin	262	Ranj Pillai	309	Colette Acheson	84	N/A	0	655
Riverdale North	1,647	Cory Adams	280	Nils Clarke	469	Vanessa Thorsen	375	N/A	0	1,124
Riverdale South	1,691	Cynthia Lyslo	307	Tracy McPhee	415	Jason Cook	334	N/A	0	1,056
Takhini-Kopper King	2,128	Morgan Yuill	244	Raj Murugaiyan	198	Kate White	763	N/A	0	1,205
Vuntut Gwitchin	204	N/A	0	Pauline Frost	78	Annie Blake	78	N/A	0	156
Watson Lake	1,002	Patti McLeod	313	Amanda Brown	237	N/A	0	N/A	0	550
Whitehorse Centre	1,968	Eileen Melnychuk	249	Dan Curtis	312	Emily Tredger	498	N/A	0	1,059
Whitehorse West	1,577	Angela Drainville	376	Richard Mostyn	398	Ron Davis	229	N/A	0	1,003
TOTAL	**29,112**	**7,477**		**6,155**		**5,356**		**26**		**19,014**

Alternative Vote (AV)

How might it work in The Yukon?

Yukon Citizens' Assembly on Electoral Reform

Working Paper on Elections Modelling

Part 2 of 4

FPTP – **AV** – AV/STV – MMP

Jonathan Rose, Queen's University
Laura Levick, St. Thomas University

Appendix A: Yukon Electoral System Scenarios

Table of Contents

What is the Alternative Vote?

The Alternative Vote (AV), also known as Instant-Runoff Voting (IRV), is a preferential voting system. Like First-Past-the-Post (FPTP), AV works by dividing a territory into geographic districts or riding. Each riding then chooses a single local representative.

Instead of voting only for their top choice, AV requires voters rank the candidates in order of preference. Unlike FPTP, AV requires the winning candidate to receive a majority. This makes AV a **majoritarian** system.

> **Majoritarian** electoral systems like AV require candidates to receive a majority (more than half) of the votes to win. By contrast, **plurality** systems like FPTP only require winner to receive the most votes (but not necessarily a majority).

If a candidate gets more than half of the first-choice votes, they win the seat. If no one gets more than half, the candidate with the fewest votes is eliminated. Their votes are then redistributed to the remaining candidates based on the voters' second choice. This process of elimination and redistribution continues until one candidate gets more than half of the votes is declared the winner.

Where is AV used?

The Alternative Vote is used for federal and most state elections in Australia. Ireland uses AV in presidential elections. It is also used in local mayoral elections in many towns in England and Wales. In Canada, the Alternative Vote was used for provincial elections in British Columbia in 1952 and 1953, in the rural areas of Manitoba between 1927 and 1953, and in Alberta between 1926 and 1955.It is also used by most leadership contests in Canada to elect the party leader.

How does AV work?

Ballot Structure

As in FPTP, an AV ballot consists of a list of the names of each local candidate running to represent a particular district.

To vote, voters rank the candidates in order of preference on their ballots (1st choice, 2nd choice, 3rd choice, etc.). Some places that use AV require voters to rank all candidates (compulsory preferences) and others allow voters to rank as few or as many candidates as they wish (optional preferences).

Example Ballot: AV
Rank candidates in order of your preference.
1 for your first choice,
2 for your second and so on.

2	Candidate Name *Fireweed Party*
1	Candidate Name *Mountain Party*
5	Candidate Name *Spruce Party*
3	Candidate Name *River Party*
4	Candidate Name *Independent*

District Magnitude

As in FPTP, the district magnitude is one since there can only be one winner per district.

Electoral Formula

To win, a candidate must receive more than 50% of the votes in their district. First, only the top choice votes are counted (i.e., all the '1s' on every ballot). If a candidate gets more than half of these votes, they win right away. If not, the candidate with the fewest votes is eliminated. Votes for the eliminated candidate are then redistributed to the remaining candidates based on the next highest preference indicated on each ballot. This process is repeated until a candidate receives a majority of the votes and is declared the winner. It is possible that the candidate who received the most first preference votes may not win the election after subsequent preferences are redistributed.

> What happens if a ballot only has one or two preferences, and those candidates are eliminated during the count? That ballot would be considered **exhausted** and would not be redistributed further, meaning it would no longer influence the outcome.

While it is theoretically possible for an AV election to result in a tie, it is exceedingly rare. Ties in AV elections can occur at various stages of the vote counting process, particularly when the number of remaining candidates is reduced and there is an equal number of votes for the remaining candidates.

In the event of a tie, the winner is determined by the drawing of lots (as in Australia) or another random method. Mathematically speaking, the smaller the population of an electoral district, the greater the likelihood of a tie.

Government Formation

It is typical for the party with the most seats to form a government after an election. If a single party wins a majority of the seats (more than half), that party will form a majority government. **Majority governments** generally have an easier time passing legislation, as they do not necessarily need to compromise with opposition parties.

If no single party wins a majority of the seats, the largest party may form a minority government. In such cases, the largest party must rely on the support of one or more smaller parties when passing legislation.

> Australia has used AV in 44 parliamentary elections. More than half of those resulted in a **majority government**.

Minority governments, coalitions, and confidence and supply agreements have advantages and disadvantages. On the one hand, input from smaller opposition parties ensures that a wider diversity of opinion is represented in the resulting legislation. On the other hand, the compromise required to negotiate opposition support can make it difficult for voters to attribute blame/reward for particular policies.

How might AV work in the Yukon?

In this section, we use actual election results conducted under the current FPTP system to imagine how AV might work in the Yukon. *However, these mock elections should be interpreted with caution.* Electoral systems are not simply mathematical formulas for transforming votes into seats. Changing the electoral system is likely to have cascading effects that can be unpredictable. For instance, changing the rules can also change voters' strategic choices, which can result in changes to their preferences.

In order to conduct a mock election under a different system, we had to make some very big assumptions about how Yukon voters might cast their ballots under different rules. However, it is impossible to know how accurate these assumptions are. For a detailed overview of these assumptions, see Appendix A at the end of this document.

> The menu driven theory of electoral choice is that preferences are dependent on choices before the voter. If you change 'the menu' you may change preferences.

The table below summarizes the differences between the actual election results and the projected results under AV for the 2021, 2016, and 2011 Yukon elections. It shows the number of seats that each party would win under FPTP compared to AV. The column on the right illustrates the difference. *Italicized* values, highlighted green, indicate that a party could expect to win more seats under AV than it did under FPTP. **BOLD** values, highlighted red, indicate that party could expect to lose seats if the election had been run under the AV system.

Table 1: Comparing Actual and Projected Results

2021 Election

Party	Actual Seats under FPTP	Projected Seats under AV	Difference
YUKON PARTY	8	5	**-3**
YUKON LIBERAL PARTY	8	12	*4*
YUKON NDP	3	1	**-2**
INDEPENDENT CANDIDATES	0	0	0
Total	19*	18**	

* Including one tie   **Not including one tie

2016 Election

Party	Actual Seats under FPTP	Projected Seats under AV	Difference
YUKON PARTY	6	1	**-5**
YUKON LIBERAL PARTY	11	18	*7*
YUKON NDP	2	0	**-2**
YUKON GREEN PARTY	0	0	0
INDEPENDENT CANDIDATES	0	0	0
Total	19	19	

2011 Election

Party	Actual Seats under FPTP	Projected Seats under AV	Difference
YUKON PARTY	11	8	**-3**
YUKON LIBERAL PARTY	2	5	*3*
YUKON NDP	6	6	0
YUKON GREEN PARTY	0	0	0
YUKON FIRST NATIONS PARTY	0	0	0
INDEPENDENT CANDIDATES	0	0	0
Total	19	19	

In terms of government formation, FPTP actually resulted in majority governments in 2016 and 2011, and a minority government in 2021. Given our assumptions, our projections suggest that under AV the 2021 and 2016 elections would have resulted in Liberal majority governments. The 2011 election would have resulted in a Yukon Party minority. Compared to FPTP, AV may result in changes in seats frequently and changes in government occasionally.

These projected results should be interpreted with caution. They are based on several untestable assumptions, some of which are unrealistic. While we can make an educated guess about which party or candidate a voter may prefer as their first choice (based on the actual FPTP results), we do not know what that voter's second or third choice would be.[1] These results do not and cannot fully account for changes in voter behaviour and party strategy that would come from a switch to AV. At best, they are very simplified abstractions. However, the point of these mock elections is not to provide an accurate prediction of which party or candidates might win under AV, but to show some of the important features of the system in action.

The general tendency to result in single-party majority governments and to reward large, centrist parties is consistent with AV systems elsewhere. However, these mock election results exaggerate this effect, meaning that they probably overestimate the number of seats that the centrist party (in this case, the Liberals) would have won using AV. Using different assumptions about voters' subsequent choices would change these outcomes.

Centrist parties often benefit from AV because these parties tend to be the first choice of some voters but the second choice of many, allowing them to gather transferred votes from eliminated candidates on both the left and right, which increases their chances of winning as preferences are redistributed.

> The projected results should be interpreted with caution, as they are based on assumptions that are not always true.

Moderate and centrist parties also benefit from AV because they are likely to be more acceptable to a broader range of voters. In an AV system, there are incentives for candidates to appeal to a wide spectrum of voters to gain second and third preferences, which helps moderate parties accumulate more votes during the elimination rounds. An electoral system would likely influence the way voters express preferences and potentially the way parties campaign and position themselves.

Mock Election Results

> Electoral systems change the way parties campaign as well as the way voters make their preferences.

The mock election results below are based on official election results published by Elections Yukon. Each table includes the name of the electoral district (left column) and the actual winners under FPTP (centre left column). The centre right column contains the name and party affiliation of the projected winners under AV, for comparison. Again, these results should be interpreted with caution.

In each mock election, most results remain the same, meaning the same candidate that won under FPTP would also have won under AV. This is a similar outcome to AV in Australia.

The 2021 election in the Yukon would have produced the same results as FPTP in 15 out of 19 ridings, including the tie in Vuntut Gwitchin. In the remaining districts, AV would have resulted in a different winner. These are highlighted in purple.

---

[1] The 2021 Canadian Election Study has data on voters' second preferences at a federal level; however, due to the small sample size and over-representation of provinces with quite different party systems than the Yukon Territory, this data was not used.

The rightmost column of each table shows the number of counts necessary to establish the winner under AV. For example, a candidate who would have won in one count received a majority of the first preference votes in that particular district. In 2021, six candidates won in the first count. Candidates who would have won in two counts needed to receive the redistributed votes from an eliminated candidate in order to win. A third count was only required in one district.

To understand exactly how we calculated the results, see Appendix B at the end of this document, which describes the counting and elimination process in more detail.

2021 Election: Mock Results, Winners

EXISTING District	Actual Winner using FPTP		Projected Winner using AV		Counts
Copperbelt North	Currie Dixon	YUKON	Currie Dixon	YUKON	1
Copperbelt South	Scott Kent	YUKON	Scott Kent	YUKON	1
Klondike	Sandy Silver	LIBERAL	Sandy Silver	LIBERAL	2
Kluane	Wade Istchenko	YUKON	Luke Campbell	LIBERAL	2
Lake Laberge	Brad Cathers	YUKON	Brad Cathers	YUKON	1
Mayo-Tatchun	Jeremy Harper	LIBERAL	Jeremy Harper	LIBERAL	2
Mount Lorne- Southern Lakes	John Streicker	LIBERAL	John Streicker	LIBERAL	2
Mountainview	Jeanie Mclean (Dendys)	LIBERAL	Jeanie Mclean (Dendys)	LIBERAL	3
Pelly-Nisutlin	Stacey Hassard	YUKON	Stacey Hassard	YUKON	1
Porter Creek Centre	Yvonne Clarke	YUKON	Paolo Gallina	LIBERAL	2
Porter Creek North	Geraldine Van Bibber	YUKON	Staci McIntosh	LIBERAL	2
Porter Creek South	Ranj Pillai	LIBERAL	Paolo Gallina	LIBERAL	2
Riverdale North	Nils Clarke	LIBERAL	Nils Clarke	LIBERAL	2
Riverdale South	Tracy McPhee	LIBERAL	Tracy McPhee	LIBERAL	2
Takhini-Kopper King	Kate White	NDP	Kate White	NDP	1
Vuntut Gwitchin	Annie Blake	NDP	Tie	LIBERAL/NDP	N/A
Watson Lake	Patti McLeod	YUKON	Patti McLeod	YUKON	1
Whitehorse Centre	Emily Tredger	NDP	Dan Curtis	LIBERAL	2
Whitehorse West	Richard Mostyn	LIBERAL	Richard Mostyn	LIBERAL	2

2016 Election: Mock Results, Winners

EXISTING District	Actual Winner using FPTP		Projected Winner using AV		Counts
Copperbelt North	Ted Adel	LIBERAL	Ted Adel	LIBERAL	2
Copperbelt South	Scott Kent	YUKON	Jocelyn Curteanu	LIBERAL	3
Klondike	Sandy Silver	LIBERAL	Sandy Silver	LIBERAL	1
Kluane	Wade Istchenko	YUKON	Mathieya Alatini	LIBERAL	2
Lake Laberge	Brad Cathers	YUKON	Alan Young	LIBERAL	3
Mayo-Tatchun	Don Hutton	LIBERAL	Don Hutton	LIBERAL	2
Mount Lorne- Southern Lakes	John Streicker	LIBERAL	John Streicker	LIBERAL	2
Mountainview	Jeanie Dendys	LIBERAL	Jeanie Dendys	LIBERAL	2
Pelly-Nisutlin	Stacey Hassard	YUKON	Stacey Hassard	YUKON	3
Porter Creek Centre	Paolo Gallina	LIBERAL	Paolo Gallina	LIBERAL	3
Porter Creek North	Geraldine Van Bibber	YUKON	Eileen Melnychuk	LIBERAL	3
Porter Creek South	Ranj Pillai	LIBERAL	Ranj Pillai	LIBERAL	2
Riverdale North	Nils Clarke	LIBERAL	Nils Clarke	LIBERAL	3
Riverdale South	Tracy McPhee	LIBERAL	Tracy McPhee	LIBERAL	2
Takhini-Kopper King	Kate White	NDP	Jeane Lassen	LIBERAL	2
Vuntut Gwitchin	Pauline Frost	LIBERAL	Pauline Frost	LIBERAL	1
Watson Lake	Patti McLeod	YUKON	Ernie Jamieson	LIBERAL	3
Whitehorse Centre	Liz Hanson	NDP	Tamara Goeppel	LIBERAL	2
Whitehorse West	Richard Mostyn	LIBERAL	Richard Mostyn	LIBERAL	2

2011 Election: Mock Results, Winners

EXISTING District	Actual Winner using FPTP		Projected Winner using AV		Counts
Copperbelt North	Currie Dixon	YUKON	Arthur Mitchell	LIBERAL	2
Copperbelt South	Lois Moorcroft	NDP	Lois Moorcroft	NDP	2
Klondike	Sandy Silver	LIBERAL	Sandy Silver	LIBERAL	2
Kluane	Wade Istchenko	YUKON	Wade Istchenko	YUKON	3
Lake Laberge	Brad Cathers	YUKON	Brad Cathers	YUKON	1
Mayo-Tatchun	Jim Tredger	NDP	Jim Tredger	NDP	2
Mount Lorne- Southern Lakes	Kevin Barr	NDP	Kevin Barr	NDP	2
Mountainview	Darrell Pasloski	YUKON	Darrell Pasloski	YUKON	2
Pelly-Nisutlin	Stacey Hassard	YUKON	Stacey Hassard	YUKON	3
Porter Creek Centre	David Laxton	YUKON	Kerry Huff	LIBERAL	2
Porter Creek North	Doug Graham	YUKON	Doug Graham	YUKON	3
Porter Creek South	Mike Nixon	YUKON	Don Inverarity	LIBERAL	2
Riverdale North	Scott Kent	YUKON	Scott Kent	YUKON	3
Riverdale South	Jan Stick	NDP	Jan Stick	NDP	2
Takhini-Kopper King	Kate White	NDP	Kate White	NDP	2
Vuntut Gwitchin	Darius Elias	LIBERAL	Darius Elias	LIBERAL	1
Watson Lake	Patti McLeod	YUKON	Patti McLeod	YUKON	3
Whitehorse Centre	Elizabeth (Liz) Hanson	NDP	Elizabeth (Liz) Hanson	NDP	1
Whitehorse West	Elaine Taylor	YUKON	Elaine Taylor	YUKON	1

How does AV align with the values of the Yukon Citizens' Assembly?

Different electoral systems have different strengths and weaknesses and embody different principles and values. As part of its deliberations, the Yukon Citizens' Assembly has articulated several values that any new electoral system ought to reflect. Among these, the Yukon Citizens' Assembly prioritized three core values: legitimacy, fairness, and local representation/accountability.

Legitimacy

Legitimacy comes from following procedures fairly and impartially, regardless of the electoral system. Beyond that, the way voters perceive the results and procedures also matters. How might Yukon residents feel about the way AV works? Would ordinary voters understand it? Would they accept its results as just and rightful?

To answer these questions, we turn to the results of the May 2022 survey prepared for the Special Committee on Electoral Reform of the 35th Yukon Legislative Assembly by the Yukon Bureau of Statistics. The survey polled all Yukon residents aged 16 years and over and received a response rate of 17.1%.

The survey asked voters several relevant questions that relate to the core advantages of AV: local representation, the ability to express ranked preferences, and the use of a majority threshold (as opposed to plurality).

On local representation, the survey found an overwhelming majority of respondents (78.4%) agreed or strongly agreed that Yukon's electoral system should ensure that voters elect local candidates to represent them.

> **Sincere voting** means a voter supports a candidate they genuinely prefer to all others. It is the opposite of **tactical** or **strategic voting**.

The same survey asked whether FPTP adequately reflects voters' intentions. Twenty-nine percent of respondents agreed or strongly agreed, while 41.4% disagreed or strongly disagreed. Because of its use of ranked preferences, AV may perform better in this regard at the district level. However, as the mock election results show, AV does not guarantee that proportion of seats a party wins will directly correspond with its share of the popular vote.

Finally, two questions asked respondents to indicate their level of agreement with the underlying logic of plurality (most votes wins) and majority systems (where the winner must receive more than half of the votes). In response, 47.5% of respondents agreed or strongly agreed that a candidate who receives the most votes, even if it is less than half of the total votes cast, should be elected. Similarly, 45.0% of respondents agreed that a candidate should have to obtain more than half of the votes cast in order to be elected, while 30.1% disagreed or strongly disagreed. The results are very similar, suggesting respondents view plurality systems and majority systems as legitimate.

Fairness

Fairness is not the same as proportionality. Like legitimacy, fairness is based on both procedure and perception. Procedural fairness is possible using any system, including AV. The basic logic of "majority wins" can be reasonably claimed to be fair. Because AV requires that the winning candidate secures a majority of the votes, AV ensures that the elected representative has broad support, which is a cornerstone of democratic fairness.

In addition, reducing wasted votes, discouraging strategic voting, and encouraging the **sincere** expression of preferences also contribute to the fairness of the Alternative Vote.

However, if, as the May 2022 survey found, 71.6% of respondents agreed or strongly agreed that the Yukon's electoral system should result in a proportional relationship between a party's vote share and seat share, the disproportionality that is likely to result from AV elections may be seen as a weakness of AV. Because the threshold to win a seat is higher (50%+1 vs. plurality of votes), an AV system does not perform differently than First-Past-the-Post.

Local Representation & Accountability

Because voters in each district elect their own member to the assembly, AV is based on a logic that maintains local representation. This is because, in theory, candidates respond to the

specific needs of their constituents. A candidate who is not sufficiently engaged/responsive runs the risk of being voted out of office. In practice, as in FPTP, the actual degree to which local representation is possible depends on the strength of party discipline. Like FPTP, AV is very strong on local representation.

Transparency

Because of the counting process, the results of an election in a district may not be as clear as FPTP. This is because the candidate who was leading on the first count may not end up winning after other candidates have been eliminated and their supporters' second and third preferences have been taken into account. AV is transparent, however, in that it is clear how each winner was determined.

Participation

AV may encourage greater participation of voters as it offers more choice through ranking candidates. It may also encourage candidates from smaller parties or independents to run as voters can vote sincerely, as well as influence the outcome through their subsequent preferences. However, evidence from Canadian provinces that used Alternative Vote up until the 1950s did not see much effect on voter turnout.

Simplicity/Accessibility

While AV would be a change to how voters indicate their preferences, voters already vote for multiple candidates on one ballot in City Council elections in Whitehorse though they do not rank them. In general, the concept of ranking preferences in order is intuitive for many even though doing so in a voting booth is new.

What are the potential unintended consequences of AV?

The use of ranked ballots can create some consequences such as donkey voting and ballot exhaustion. **Donkey voting** occurs when the voter ranks the candidates in the order they appear on the ballot rather than according to their preference. It is common in jurisdictions where voting is compulsory. The effect can be easily mitigated by randomizing names on the ballot.

Ballot exhaustion occurs when a voter has not ranked all candidates on the ballot and therefore their vote cannot be redistributed after the elimination of their preferred candidates, effectively resulting in their preferences not being considered in the final outcome. While some may say this is a drawback since their ballot may not be used in subsequent counts, others see it as reflection of their true preferences.

The increased counting complexity can also result in delays and requires additional training of staff.

Finally, in a jurisdiction like the Yukon where there are comparatively few voters in a riding and where there is often a small difference between the first and third place candidate, AV may benefit those smaller parties by giving them a better chance to gain representation.

Appendix A: Assumptions

Assumption 1: Voters' preferences are based on party affiliation/ideology rather than local factors specific to individual candidates.

This is a big assumption. As noted above, the logic of AV values strong relationships between representatives and their districts. Thus, it is likely that some AV voters may consider candidates' individual traits when casting their votes. It is also possible that individual factors might sometimes override party preferences. In other words, a voter who agrees with the policy priorities of the 'Fireweed Party' might still rank a candidate from the 'Mountain Party' first if they believe the Mountain candidate is the most qualified and capable of representing their district. In the Yukon, that means a lifelong Yukon Party supporter may vote for the NDP candidate first and the Yukon Party candidate second if they believe the NDP candidate would do the best job of representing their local concerns. Or vice versa. That being said, party affiliation tends to be the most important factor in determining voter preferences, generally speaking.

Assumption 2: The actual results of the FPTP elections reflect the first preference of each voter.

Voters do not get to rank their preferences in FPTP; they only get one choice. In AV, however, voters must rank their choices. We assume that anyone who voted for a candidate under FPTP would also rank that candidate first under AV. While this assumption is reasonable, it is not always a perfect reflection of voters' true preferences. One of the unintended consequences of FPTP is that it tends to encourage strategic voting, which occurs when a voter supports a candidate they think has a better choice of winning as opposed to their actual preferred choice, in order to prevent an undesirable candidate from winning. In particular, strategic voting is likely among supporters of smaller parties or independent candidates. This means that FPTP results may not be a good indication of voters' true preferences.

However, we have no information about the second, or third preferences of voters, since FPTP only allows voters to indicate one choice. Thus, we assume the following preference orders, which are probably unrealistic.

Table A1: AV Preference Assumptions in Yukon Territorial Elections

Voter's Values	1st preference	2nd preference	3rd preference	4th preference
Conservative	Yukon Party	Liberal Party	NDP	
Centre	Liberal Party	Yukon Party	NDP	
		NDP	Yukon Party	
Left	NDP	Liberal Party	Yukon Party	
Environmental Left	Green	NDP	Liberal Party	Yukon Party
First Nations	Yukon First Nations	NDP	Liberal Party	Yukon Party
Independent	Independent	Liberal Party	Yukon Party	NDP

According to these preference orders, a conservative voter would be most likely to vote for the Yukon Party as their first choice, then use their second choice to vote Liberal, their third for the NDP, etc.

We also assume that centrist voters are most likely to vote Liberal first. However, their second preferences are likely to be divided between the Yukon Party and the NDP. (We assume a 50/50 split in terms of centrists' second preferences.)

On the left, we assume that some voters are likely to prefer the NDP for their first choice, others the Greens. When it comes to second preferences, we expect NDP supporters to prefer the Liberals and Green supporters to prefer the NDP. The reasons for this are practical: because the Green candidates are usually eliminated early in our counting process, it does not make sense to include them as a second choice. (That is to say, there was never a situation in which the NDP candidate was eliminated before the Green candidate). The same is true for Independent and First Nations Party candidates.

These preference structures are gross oversimplifications. At best, they represent educated guesses. For example, it is almost impossible that every single supporter of a given party has the same exact preference order. However, this assumption makes it much easier to conduct a mock count using AV.

Assumption 3: Voters rank all candidates.

For counting purposes, we assume that voters rank all candidates on the ballot, rather than exhausting their ballots after expressing just one or two choices. We recognize that this is not actually likely. Ballot exhaustion is often a deliberate choice when a voter only has one or two true preferences. However, we have no way of knowing which voters are likely to deliberately exhaust their ballots in this way. Therefore, we assume that all voters rank all candidates, even though historical data from British Columbia, Alberta, and Manitoba suggest that around one quarter of AV voters only mark a single preference.

Appendix B: Mock Election Procedure and Results

These mock election results are based on official election results published by Elections Yukon.

The first round of counting is based exclusively on first preference votes. These results are identical to the actual FPTP results (per Assumption 2). In the tables below, the candidates highlighted in <mark>yellow</mark> received a majority and are deemed elected. In 2021, 6 out of 19 districts were elected in the first count. That means that these 6 candidates received more than 50% of the votes in their riding under FPTP.

If no candidate received a majority of first preference votes in their district, the counting proceeded to a second round. In 2021, this occurred in 12 districts. However, before proceeding to the second count, the candidate with the fewest first preference votes (highlighted in <mark>pink</mark>) was then eliminated.

In the second count, the votes for the eliminated candidate have been redistributed to the remaining candidates according to the table, "AV Preference Assumptions" above.

If there was no winner in the second round of counting, the count proceeded to examine third preferences. A fourth round was not necessary. In one district (Vuntut Gwitchin) AV was unable to resolve a tie.

2021 Election: Mock Results (AV)											
	First Count/Preference				Second Count/Preference			Third Count/Preference			
ELECTORAL DISTRICT	YUKON	LIBERAL	NDP	IND.	YUKON	LIBERAL	NDP	YUKON	LIBERAL	NDP	Total
Copperbelt North	717	346	318		No second count			No third count			1381
Copperbelt South	726	259	289		No second count			No third count			1274
Klondike	364	526	224		364	750		No third count			1114
Kluane	352	219	211		352	430		No third count			782
Lake Laberge	799	229	259		No second count			No third count			1287
Mayo-Tatchun	186	238	208			424	208	No third count			632
Mount Lorne-Southern Lakes	406	446	292		406	738		No third count			1144
Mountainview	268	402	356	26	268	428	356		696	356	1052
Pelly-Nisutlin	362	97	254		No second count			No third count			713
Porter Creek Centre	704	646	334		704	980		No third count			1684
Porter Creek North	562	331	250		562	581		No third count			1143
Porter Creek South	262	309	84		262	393		No third count			655
Riverdale North	280	469	375			749	375	No third count			1124
Riverdale South	307	415	334			722	334	No third count			1056
Takhini-Kopper King	244	198	763		No second count			No third count			1205
Vuntut Gwitchin		78*	78*		Resolved by drawing lots			No third count			156
Watson Lake	313	237			No second count			No third count			550
Whitehorse Centre	249	312	498			561	498	No third count			1059
Whitehorse West	376	398	229		376	627		No third count			1003
										Total	19014
Elected (50%+1)	5		1			11			1		18*
	First Count/Preference				Second Count/Preference			Third Count/Preference			

*Vuntut Gwitchen election was resolved by drawing lots.

ELECTORAL DISTRICT	First Count/Preference					Second Count/Preference			Third Count/Preference			Total
	YUKON	LIBERAL	NDP	GREEN	IND.	YUKON	LIBERAL	NDP	YUKON	LIBERAL	NDP	
Copperbelt North	529	566	161			529	727		No third count			1256
Copperbelt South	449	425	331	12		449	425	343	449	768		1217
Klondike	365	687	111			No second count			No third count			1163
Kluane	338	289	153			338	442		No third count			780
Lake Laberge	558	342	261	38		558	342	299	558	641		1199
Mayo-Tatchun	166	331	233				497	233	No third count			730
Mount Lorne-Southern Lakes	284	451	437				735	437	No third count			1172
Mountainview	399	439	432				838	432	No third count			1270
Pelly-Nisutlin	280	152	207	22		280	152	229	356		305	661
Porter Creek Centre	379	452	213			379	452	213	379	665		1044
Porter Creek North	435	372	145	37		435	372	182	435	554		989
Porter Creek South	285	337	102			285	439		No third count			724
Riverdale North	258	486	337	36		258	486	373		744	373	1117
Riverdale South	323	421	384				744	384	No third count			1128
Takhini-Kopper King	229	478	605				707	605	No third count			1312
Vuntut Gwitchin	70	77	3			No second count			No third count			150
Watson Lake	299	212	219		38	299	250	219	299	469		768
Whitehorse Centre	193	432	487				625	487	No third count			1112
Whitehorse West	433	455	106			433	561		No third count			994
											Total	18786
Elected (50%+1)		2					10		1	6		19
	First Count/Preference					Second Count/Preference			Third Count/Preference			

2011 Election: Mock Results (AV)											
	First Count/Preference						Second Count/Preference			Third Count/Preference		
ELECTORAL DISTRICT	YUKON	LIBERAL	NDP	F.N.*	GREEN	IND.	YUKON	LIBERAL	NDP	YUKON	NDP	Total
Copperbelt North	520	407	159				520	566		No third count		1086
Copperbelt South	394	184	397				486		489	No third count		975
Klondike	404	530	147				404	677		No third count		1081
Kluane	287	219	220	32			287	219	252	396	362	758
Lake Laberge	528	159	330				No second count			No third count		1017
Mayo-Tatchun	214	181	282				304		410	No third count		677
Mount Lorne-Southern Lakes	395	111	488	49			395	111	537	No third count		1043
Mountainview	480	216	376				588		484	No third count		1072
Pelly-Nisutlin	275	73	178			31	275	104	178	327	230	557
Porter Creek Centre	298	245	230				298	475		No third count		773
Porter Creek North	400	82	253		69		400	82	322	441	363	804
Porter Creek South	257	243	99				257	342		No third count		599
Riverdale North	366	289	296		35		366	289	331	510	476	986
Riverdale South	314	274	380				451		517	No third count		968
Takhini-Kopper King	316	224	458				428		570	No third count		998
Vuntut Gwitchin	52	93					No second count			No third count		145
Watson Lake	276	165	242			48	276	152	242	352	318	731
Whitehorse Centre	202	104	525				No second count			No third count		831
Whitehorse West	422	209	94				No second count			No third count		725
											Total	15826
Elected (50%+1)	2	1	1				1	4	5	5		19
	First Count/Preference						Second Count/Preference			Third Count/Preference		

*F.N. = First Nations Party

Alternative Vote/Single Transferable Vote Hybrid (AV/STV)

How might it work in The Yukon?

Yukon Citizens' Assembly on Electoral Reform
Working Paper on Elections Modelling

Part 3 of 4

FPTP – AV – **AV/STV** – MMP

Jonathan Rose, Queen's University
Laura Levick, St. Thomas University

Appendix A: Yukon Electoral System Scenarios

Table of Contents

What is the Single Transferable Vote? And what is the proposed AV/STV hybrid?

The proposed AV/STV hybrid is an approach that combines aspects of both the Alternative Vote (AV) and another system known as the Single Transferable Vote (STV). A hybrid approach means using the Alternative Vote in rural areas and the Single Transferable Vote in urban areas.

> The proposed AV/STV hybrid allows for greater voter choice, retains local representation and adds a degree of proportionality.

The primary logic of a such a system is to maximize local representation and voter choice while avoiding the creation of large geographic districts. The use of STV also adds an element of proportionality to the results, although the overall result system is unlikely to be perfectly proportional since AV is not a proportional system.

In rural districts outside Whitehorse, this system uses the Alternative Vote (AV) to elect representatives. AV requires voters rank the candidates in order of preference. In order to win, a candidate must receive a majority of the votes. If no one gets a majority on the first count, the candidate with the fewest first preference votes is eliminated. Their votes are then redistributed to the remaining candidates based on the voters' second choice. This process continues until one candidate gets a majority and is declared the winner.

In Whitehorse, where the population is more concentrated, Single Transferable Vote is used to elect MLAs. Like AV, STV uses geographic districts. However, unlike AV, STV has multi-member districts. In other words, while each rural riding using AV would only elect one representative, each urban riding using STV would elect more than one.

The ballot would look the same for all Yukon voters. In both cases, voters to rank the candidates on their ballots in order of preference (1, 2, 3, 4, etc.).

A simple mathematical formula is used to determine how many votes a candidate needs in order to be elected. In AV it is 50% + 1 of votes in the district. In STV, the formula is dependent on the number of voters and number of winners in the district. Any candidate who receives more votes than the quota is elected.

> In STV elections, the number of votes a candidate needs to win a seat is called a **quota**. There are different ways to calculate the quota, but most STV systems use the **Droop quota**.

Where is AV/STV used?

Both AV and STV are used around the world, though not usually in combination.

The Alternative Vote is used in Australia. In Canada, the Alternative Vote was used for provincial elections in British Columbia in 1952 and 1953.

The Single Transferable Vote is used in Ireland and Malta. It is also used for regional elections in Northern Ireland and in Senate elections in Australia.

Combining STV and AV is unusual but not without precedent. Such a systems was used in Canada in the past. At the provincial level, Manitoba and Alberta both used variations of rural/urban AV/STV from the 1920s until the 1950s.

How does AV/STV work?

Ballot Structure

Both AV and STV use a similar voting process based on ranking preferences. The primary difference in terms of ballot design is that urban STV ballots typically contain more names, since STV districts always have more than one winner.

> The larger the **district magnitude**—in other words, the more winning candidates elected per riding—the more proportional the result. STV is a form of proportional representation, while AV is not.

Because there are multiple winners in each STV district, each political party is incentivized to put forward multiple candidates. This means that candidates may be competing with other members of their own party.

STV allows voters to rank candidates in any order they like, maximizing voter choice.

In some places that use ranked ballots, voters are required to rank all candidates on the ballot, otherwise the vote is deemed invalid. However, STV can also be designed to allow voters to list as many or few choices as they please. This is an electoral design decision that weighs voter choice against 'exhausted ballots' (which occurs when a voter has not ranked all candidates on the ballot and their vote cannot be redistributed after the elimination of their preferred candidates).

	Example Ballot: STV		
	Rank Candidates in order of your preference. 1 for your first choice, 2 for your second and so on.		
2	Candidate Name *Fireweed Party*	7	Candidate Name *Mountain Party*
1	Candidate Name *Fireweed Party*	9	Candidate Name *Spruce Party*
3	Candidate Name *Fireweed Party*	6	Candidate Name *Spruce Party*
5	Candidate Name *Mountain Party*	5	Candidate Name *River Party*
4	Candidate Name *Mountain Party*	8	Candidate Name *Independent*

District Magnitude

One of the unique features of the AV/STV hybrid is the variation in district magnitude in the territory.

In rural districts using AV, the district magnitude is always one, as there can only be one winner per district election.

In the urban STV districts, there are always multiple winners, which means district magnitude is always greater than one. In other places that use STV, district magnitude tends to range between three and seven seats per constituency.

In this system, determining how many representatives urban STV districts would elect would depend on population size. For example, an urban STV district with a population that is about five times larger than the average rural riding would likely elect five representatives, compared to the rural AV district's single winner.

Larger district magnitudes mean more proportional results, but the trade-off is that the ballot is longer and contains more information for voters to sift through.

If the population in the Whitehorse districts changed over time, the district magnitudes of those districts could be adjusted to maintain relative parity in voting power.

Electoral Formula

In rural AV districts (those outside Whitehorse), the winning candidate must receive more than 50% of the votes. First, only the top choice votes are counted (i.e., all the '1s' on every ballot). If a candidate gets more than half of these votes, they win right away. If not, the candidate with the fewest votes is eliminated. Votes for the eliminated candidate are then redistributed to the remaining candidates based on the next highest preference indicated on each ballot. This process is repeated until a candidate receives a majority of the votes and is declared the winner. It is possible that the candidate who received the most first preference votes may not win the election after subsequent preferences are redistributed.

In both STV and AV, a simple mathematical formula called the Droop quota is used to determine how many votes a candidate needs to be elected. The Droop quota is calculated by dividing the total number of votes by the number of seats plus one, then adding one to the total. The counting process begins with first-preference votes. Any candidate who receives more votes than the quota is elected. Surplus votes from elected candidates are then redistributed[1] according to the next preference on each ballot. If no candidates meet the quota after this, the candidate with the fewest votes is eliminated, and their votes are redistributed. This process continues until all seats are filled.

$$Droop\ Quota = (\frac{Total\ Votes}{Total\ Seats\ +\ 1}) + 1$$

Government Formation

Taken separately, AV tends to produce single-party majority governments, while STV tends to produce minority or coalition governments.

Which type of government would a hybrid system produce in the Yukon? The answer depends in part on the overall ratio of rural to urban seats. The greater the proportion of rural seats, the more likely the prospect of a single-party majority government. The greater the proportion of urban seats, the greater the likelihood of a minority government or even a coalition.

---

[1] For more detail as to the redistribution of surplus votes, please see:
https://citizensassembly.arts.ubc.ca/public/learning_resources/glossary/2004/csharman-10_0412141113-329.htm

In the past, when rural/urban AV/STV was used in Canada, it tended to result in majority governments. It was used for eight provincial elections in Alberta, resulting in eight majority governments. In Manitoba, where rural/urban AV/STV was used in seven provincial elections, it resulted in five single-party majorities and two minority governments. In both provinces, the number of AV seats was much larger than the number of STV seats.

How might AV/STV work in the Yukon?

Using actual election results, it is possible to imagine how a rural/urban AV/STV system might work in the Yukon. *However, these mock election results should be interpreted with caution.* This is because electoral systems are not simply mathematical formulas for transforming votes into seats. Changing the electoral system is likely to have cascading effects that can be unpredictable.

In order to provide a conduct a mock election under a different system, it is necessary to make some very big assumptions about how Yukon voters might cast their ballots under different rules. However, in the absence of finely grained public opinion data, it is impossible to know how accurate these assumptions are. For a detailed overview of these assumptions, see Appendix A at the end of this document.

The table below summarizes the differences between the actual election results and the projected results under AV for the 2021, 2016, and 2011 Yukon elections. It shows both the number of seats that each party would win under FPTP and the AV/STV hybrid. The columns on the right show the difference. Green values indicate that a party could expect to win more seats under the AV/STV hybrid than it did under FPTP. Red values indicate that party could expect to lose seats under the proposed new system.

Table 1: Projected Seat Difference

2021 Election

Party	Actual Seats (FPTP)	Projected Seats (AV/STV)	Difference
YUKON PARTY	8	7	-1
YUKON LIBERAL PARTY	8	8	0
YUKON NDP	3	3	0
INDEPENDENT CANDIDATES	0	0	0
Total	19*	18*	

* Including one tie   **Not including one tie

2016 Election

Party	Actual Seats (FPTP)	Projected Seats (AV/STV)	Difference
YUKON PARTY	6	5	-1
YUKON LIBERAL PARTY	11	11	0
YUKON NDP	2	3	1
YUKON GREEN PARTY	0	0	0
INDEPENDENT CANDIDATES	0	0	0
Total	19	19	

2011 Election

Party	Actual Seats (SMP)	Projected Seats (AV/STV)	Difference
YUKON PARTY	11	8	-3
YUKON LIBERAL PARTY	2	5	3
YUKON NDP	6	6	0
YUKON GREEN PARTY	0	0	0
YUKON FIRST NATIONS PARTY	0	0	0
INDEPENDENT CANDIDATES	0	0	0
Total	19	19	

In terms of government formation, FPTP resulted in majority governments in 2016 and 2011, and a minority government in 2021. Our projections suggest that under the AV/STV hybrid, the Liberal Party would still have won a majority in 2016, but both the 2011 and 2021 elections would have resulted in minorities (Yukon minority in 2011 and Liberal minority in 2021).

Mock Election Results

These mock election results are based on official election results published by Elections Yukon. The rural AV results and the urban STV results are calculated separately. To understand how we calculated the results, see the Appendix, which describes the counting and elimination process in more detail.

Our mock election assumes that eight rural districts outside of Whitehorse would use AV. The actual boundaries of these districts are the same. In Whitehorse—the only large urban area in the territory—the existing electoral districts would be merged into two new districts using STV: Whitehorse North (electing 6 representatives) and Whitehorse South (5 representatives). Table 2 shows how these imaginary ridings align with current district boundaries.

As Table 2 illustrates, the biggest difference would be the merging of existing single-member districts in Whitehorse to create two multi-member districts. This means that existing FPTP districts (left column) would no longer have their own dedicated representatives. Instead, there would be two groups of five or six representatives serving each area. Alternatively, Whitehorse could be combined into a single eleven-member district. However, that would create a very long and complex ballot, and this was less congruent with the values of simplicity and local representation identified by the Citizens' Assembly.

The projected results should be interpreted with caution. They are based on several untestable assumptions, some of which are unrealistic. While we can make an educated guess about which party or candidate a voter would prefer as their first choice (based on the actual FPTP results), we do not know what that voter's second[2] or third choice would be. These results do not and cannot fully account for changes in voter behaviour and party strategy that would come from a switch to an AV/STV hybrid system. At best, they are simplified abstractions. However, the point of these mock elections is not to provide an accurate prediction of which party or candidates might win under AV/STV, but to show some of the important features of the system in action.

Each table below includes the names of the electoral district (old and new) and the actual winners under FPTP. We also list the name and party affiliation of the projected winners under AV/STV, for comparison.

---

[2] The 2021 Canadian Election Study has data on voters' second preferences at a federal level; however, due to the small sample size and over-representation of provinces with quite different party systems than the Yukon, this data was not used.

Table 2: Hypothetical Electoral Districts

	EXISTING District	NEW District	Electoral System	District Magnitude
Rural	Klondike	[Unchanged]	AV	1
	Kluane	[Unchanged]	AV	1
	Lake Laberge	[Unchanged]	AV	1
	Mayo-Tatchun	[Unchanged]	AV	1
	Mount Lorne- Southern Lakes	[Unchanged]	AV	1
	Pelly-Nisutlin	[Unchanged]	AV	1
	Vuntut Gwitchin	[Unchanged]	AV	1
	Watson Lake	[Unchanged]	AV	1
Urban / Whitehorse	Mountainview	Whitehorse North	STV	6
	Porter Creek Centre			
	Porter Creek North			
	Porter Creek South			
	Takhini-Kopper King			
	Whitehorse Centre			
	Copperbelt North	Whitehorse South	STV	5
	Copperbelt South			
	Riverdale North			
	Riverdale South			
	Whitehorse West			

In each mock election, most results remain the same, meaning the same candidate that won under FPTP would also have won under this proposed system. In 2021, for example, AV/STV hybrid would have produced the same results as FPTP in six out of seven AV districts and nine out of 11 STV seats. The remaining districts, where the new system would have produced a different winner, are highlighted in purple .

2021 Election: Mock Results, Winners

EXISTING District	NEW District	Actual Winner using FPTP		Projected Winner(s) using AV/STV	
Klondike		Sandy Silver	LIBERAL	Sandy Silver	LIBERAL
Kluane		Wade Istchenko	YUKON	Luke Campbell	LIBERAL
Lake Laberge		Brad Cathers	YUKON	Brad Cathers	YUKON
Mayo-Tatchun		Jeremy Harper	LIBERAL	Jeremy Harper	LIBERAL
Mount Lorne- Southern Lakes		John Streicker	LIBERAL	John Streicker	LIBERAL
Pelly-Nisutlin		Stacey Hassard	YUKON	Stacey Hassard	YUKON
Vuntut Gwitchin		Annie Blake	NDP (Tie)	Tie	LIBERAL/NDP
Watson Lake		Patti McLeod	YUKON	Patti McLeod	YUKON
Mountainview	Whitehorse North	Jeanie Mclean (Dendys)	LIBERAL	Yvonne Clarke	YUKON
Porter Creek Centre		Yvonne Clarke	YUKON	Kate White	NDP
Porter Creek North		Geraldine Van Bibber	YUKON	Geraldine Van Bibber	YUKON
Porter Creek South		Ranj Pillai	LIBERAL	Paolo Gallina	LIBERAL
Takhini-Kopper King		Kate White	NDP	Jeanie Mclean (Dendys)	LIBERAL
Whitehorse Centre		Emily Tredger	NDP	Emily Tredger	NDP
Copperbelt North	Whitehorse South	Currie Dixon	YUKON	Scott Kent	YUKON
Copperbelt South		Scott Kent	YUKON	Currie Dixon	YUKON
Riverdale North		Nils Clarke	LIBERAL	Vanessa Thorsen	NDP
Riverdale South		Tracy McPhee	LIBERAL	Nils Clarke	LIBERAL
Whitehorse West		Richard Mostyn	LIBERAL	Tracy McPhee	LIBERAL

AV/STV would have resulted in a different winner, highlighted in purple

2016 Election: Mock Results, Winners

EXISTING District	NEW District	Actual Winner using FPTP		Projected Winner(s) using AV/STV	
Klondike		Sandy Silver	LIBERAL	Sandy Silver	LIBERAL
Kluane		Wade Istchenko	YUKON	Mathieya Alatini	LIBERAL
Lake Laberge		Brad Cathers	YUKON	Alan Young	LIBERAL
Mayo-Tatchun		Don Hutton	LIBERAL	Don Hutton	LIBERAL
Mount Lorne- Southern Lakes		John Streicker	LIBERAL	John Streicker	LIBERAL
Pelly-Nisutlin		Stacey Hassard	YUKON	Stacey Hassard	YUKON
Vuntut Gwitchin		Pauline Frost	LIBERAL	Pauline Frost	LIBERAL
Watson Lake		Patti McLeod	YUKON	Ernie Jamieson	LIBERAL
Mountainview	Whitehorse North	Jeanie Dendys	LIBERAL	Kate White	NDP
Porter Creek Centre		Paolo Gallina	LIBERAL	Geraldine Van Bibber	YUKON
Porter Creek North		Geraldine Van Bibber	YUKON	Jeane Lassen	LIBERAL
Porter Creek South		Ranj Pillai	LIBERAL	Darrell Pasloski	YUKON
Takhini-Kopper King		Kate White	NDP	Paolo Gallina	LIBERAL
Whitehorse Centre		Liz Hanson	NDP	Liz Hanson	NDP
Copperbelt North	Whitehorse South	Ted Adel	LIBERAL	Pat McInroy	YUKON
Copperbelt South		Scott Kent	YUKON	Jan Stick	NDP
Riverdale North		Nils Clarke	LIBERAL	Ted Adel	LIBERAL
Riverdale South		Tracy McPhee	LIBERAL	Nils Clarke	LIBERAL
Whitehorse West		Richard Mostyn	LIBERAL	Scott Kent	YUKON

AV/STV would have resulted in a different winner, highlighted in   purple

2011 Election: Mock Results, Winners

EXISTING District	NEW District	Actual Winner using FPTP		Projected Winner(s) using AV/STV	
Klondike		Sandy Silver	LIBERAL	Sandy Silver	LIBERAL
Kluane		Wade Istchenko	YUKON	Wade Istchenko	YUKON
Lake Laberge		Brad Cathers	YUKON	Brad Cathers	YUKON
Mayo-Tatchun		Jim Tredger	NDP	Jim Tredger	NDP
Mount Lorne- Southern Lakes		Kevin Barr	NDP	Kevin Barr	NDP
Pelly-Nisutlin		Stacey Hassard	YUKON	Stacey Hassard	YUKON
Vuntut Gwitchin		Darius Elias	LIBERAL	Darius Elias	LIBERAL
Watson Lake		Patti McLeod	YUKON	Patti McLeod	YUKON
Mountainview	Whitehorse North	Darrell Pasloski	YUKON	Kerry Huff	LIBERAL
Porter Creek Centre		David Laxton	YUKON	Elizabeth (Liz) Hanson	NDP
Porter Creek North		Doug Graham	YUKON	Kate White	NDP
Porter Creek South		Mike Nixon	YUKON	Darrell Pasloski	YUKON
Takhini-Kopper King		Kate White	NDP	Doug Graham	YUKON
Whitehorse Centre		Elizabeth (Liz) Hanson	NDP	Stephen Dunbar-Edge	NDP
Copperbelt North	Whitehorse South	Currie Dixon	YUKON	Arthur Mitchell	LIBERAL
Copperbelt South		Lois Moorcroft	NDP	Lois Moorcroft	NDP
Riverdale North		Scott Kent	YUKON	Currie Dixon	YUKON
Riverdale South		Jan Stick	NDP	Elaine Taylor	YUKON
Whitehorse West		Elaine Taylor	YUKON	Christie Richardson	LIBERAL

AV/STV would have resulted in a different winner, highlighted in   purple

In many ridings, the result is the same using FPTP as it would be using AV/STV in all three elections. Klondike is a good example of this. In other cases, such as Kluane in 2021 or Watson Lake in 2016, using AV/STV might result in the election of a candidate from a different party.

In still other cases, the winning party would not change but the winning candidate might. This can happen in urban districts using STV because candidates from the same party are effectively competing against one another in addition to competing against candidates from other parties.[3] In the mock results above, this happens several times. For example, in 2021 in the new multi-member district of Whitehorse North, Liberal candidate Paolo Gallina (formerly of the FPTP district of Porter Creek Centre) would face competition from six fellow Liberals). According to our simulation, Gallina—who lost under FPTP to Yukon Party candidate Yvonne Clarke—would be elected over fellow liberal Ranj Pillai, who actually won in his FPTP district. This is because

---

[3] A detailed chart showing how the results for Whitehorse North and Whitehorse South are in the Appendix below.

Gallina received more total votes than Pillai under FPTP, even though he still lost. As a result, our counting process meant that Gallina benefitted from the redistributed votes that he received when other Liberal candidates were eliminated.

How realistic is this outcome? Not very. While the Whitehorse North 2021 example does illustrate the kind of internal party competition that STV can create, we have no actual way of knowing which Liberal candidate voters would prefer if all six ran in the same district. It is also possible that at least some voters would list an NDP or Yukon Party candidate as a second or third preference rather than ranking all Liberal candidates above all candidates from other parties.

There are also some interesting anomalies to note in the projected results. For example, without better information on actual voter preferences, the tie in the rural riding of Vuntut Gwitchin in 2021 cannot be resolved by AV under our assumptions.

How does AV/STV hybrid align with the values of the Yukon Citizens' Assembly?

Different electoral systems have different strengths and weaknesses and embody different principles and values. As part of its deliberations, the Yukon Citizens' Assembly has articulated several values that any new electoral system ought to reflect. Among these, the Yukon Citizens' Assembly prioritized three core values: legitimacy, fairness, and local representation/accountability.

Legitimacy

Legitimacy comes from following procedures fairly and impartially, regardless of the electoral system. Beyond that, the way voters perceive the results and procedures also matters. How might Yukon residents feel about the way the AV/STV hybrid works? Would ordinary voters understand it? Would they accept its results as just and rightful?

To that end, the results of the May 2022 survey prepared for the Special Committee on Electoral Reform of the 35th Yukon Legislative Assembly by the by Yukon Bureau of Statistics are useful. The survey polled all Yukon residents aged 16 years and over and received a response rate of 17.1%.

The survey asked several relevant questions that relate to the core advantages of both AV and STV: local representation and the importance of proportionality—that is, the degree to which a party's share of the vote is reflected in its share of the seats.

On local representation, which is a particular strength of both AV and STV, the survey found an overwhelming majority of respondents (78.4%) agreed or strongly agreed that Yukon's electoral system should ensure that voters elect local candidates to represent them.

The same survey asked whether SMP adequately reflects voters' intentions. 29.5% of respondents agreed or strongly agreed, while 41.4% disagreed or strongly disagreed. Because of its use of ranked preferences, a hybrid AV/STV system may perform better in this regard.

Respondents were divided over their preferences for majority or minority government.

However, a clear majority (71.6%) agreed or strongly agreed that Yukon's electoral system should result in a proportional relationship between a party's vote share and seat share, the disproportionality that is likely to result from AV elections may be seen as weaknesses of AV. This suggests a hybrid AV/STV system with an element of proportionality is likely to be perceived as legitimate by Yukon voters.

Fairness

Fairness is not the same as proportionality. Like legitimacy, fairness is based on both procedure and perception. Procedural fairness is possible using any system, as long as the procedures are clear and followed impartially.

The basic logic of "majority wins," which underpins AV, can be reasonably claimed to be fair. Because AV requires that the winning candidate secures a majority of the votes, AV ensures that the elected representative has broad support, which is a cornerstone of democratic fairness.

The proportional logic of STV can also be reasonably claimed to be fair. Because the proportion of seats won by each party is meant to reflect the proportion of votes they receive, this ensures minority groups have representation proportional to their support.

In addition, both systems are effective at minimizing wasted votes, discouraging strategic voting, and encouraging the sincere expression of preferences. These features all contribute to the fairness of the system.

A hybrid system of AV and STV would have similar advantages, while also maintaining effective local representation (AV) and improving overall proportionality (STV).

Local Representation & Accountability

Both AV and STV prioritize local representation, although they do it somewhat differently. In AV, because voters in each district elect their own member dedicated of the assembly, candidates are incentivized to respond to the specific needs of their constituents. A candidate who is not sufficiently engaged/responsive runs the risk of being voted out of office.

Because STV uses multi-member districts, the incentives that prioritize local representation work a little differently. Each party has an incentive to field multiple candidates in multi-member districts, which means that candidates from the same party are effectively competing against one another to win a seat. One important way that candidates from the same party can distinguish themselves is through community engagement and local service. Unlike other proportional systems, STV emphasizes the importance of local representation. Thus, the proposed system would likely incentivize local representation in both rural and urban areas.

Transparency

Because all Yukon voters would have the same ballot and rank candidates, there is a degree of transparency. Like the present FPTP system in the Yukon, the number of voters required to win a district will vary. Outside of Whitehorse, the threshold to win is higher than in Whitehorse though the number of votes that be needed to win may be lower.

Participation

A ranked ballot offers greater choice and may encourage more sincere voting and less strategic voting, thus encouraging greater participation.

Simplicity/Accessibility

The hybrid electoral system is simple from a voter's perspective. In all cases, in every district, the voter has the option of ranking candidates. The counting of votes and the formula to determine who wins will differ depending on if you live in Whitehorse or not.

What are the potential unintended consequences?

The use of ranked ballots can create some unintended consequences, such as "donkey voting" and "ballot exhaustion"[4]. The increased counting complexity can also result in delays and requires additional training of staff.

Another, more positive unintended consequence may be a reduction in negative campaigning. This is because winning candidates need to attract not only first-preference votes, but also second and third preferences. This encourages candidates to appeal to a broader spectrum of voters, reducing negative campaigning and fostering more cooperative political discourse.

This cooperation could also extend to tactical alliances, where candidates and parties might form alliances or recommend their voters rank allied candidates as their second or third preferences, which could influence the dynamics of the election. This could also lead to strategic nomination choices by parties attempting to game the system, running more or fewer candidates than usual to maximize their chances of winning seats.

While AV and STV can benefit smaller parties by giving them a better chance to gain representation, it can also inadvertently disadvantage them if their supporters are less likely to rank multiple candidates or if the party struggles to gain enough second-choice votes. While STV is a form of proportional representation, a hybrid system is not likely to be perfectly proportional.

---

[4] See "The Alternative Vote: How Might it Work in the Yukon" for more on these terms and p. 4 above

Finally, one serious unintended consequence of a system that combines a majoritarian system (AV) in rural areas with a proportional system (STV) in urban areas is that this can lead parties to campaign differently in different areas. In particular, a significant shift in public opinion is likely to result in more seats flipping between parties in rural areas than in urban ones. This can incentivize parties to focus more on rural issues, leading urban areas to feel ignored. In Manitoba, where this system was used between 1927 and 1953, this was a common criticism of those living in Winnipeg.

Appendix A: Assumptions

Assumption 1: Voters' preferences are based on party affiliation/ideology rather than local factors specific to individual candidates.

This is a big and probably unrealistic assumption. Both STV and AV are designed to foster direct, geographic linkages between constituents and the representative for their riding. Thus, it is likely that voters would take candidates' individual characteristics into account when considering how to vote. This is especially true for STV, which allows voters to rank different individual candidates from the same political party. However, we have no way of knowing how these local factors would affect the result. Therefore, we assume that voters who voted for a Yukon Party candidate under FPTP would also vote for Yukon Party candidates as their top preferences under AV/STV, ranking all Yukon Party candidates above all candidates from other parties, for example.

Assumption 2: The actual results of the FPTP elections reflect the first preference of each voter.

Voters do not get to rank their preferences in FPTP; they only get one choice. However, both AV and STV require voters to rank their choices. We assume that anyone who voted for a candidate under FPTP would also rank that candidate first under AV and/or STV.

This assumption is also unrealistic, as some FPTP voters likely cast strategic votes that do not accurately reflect their first preference. This is especially true of supporters of smaller parties or independent candidates.

However, we have no information about voters' sincere preferences. Nor do we know anything about voters' the second, third, or fourth preferences, since FPTP only allows voters to indicate one choice. Thus, we assume the following preference orders.

Table A1: Preference Assumptions in Yukon Territorial Elections

Voter's Values	1st preference	2nd preference	3rd preference	4th preference
Conservative	Yukon Party	Liberal Party	NDP	
Centre	Liberal Party	Yukon Party	NDP	
		NDP	Yukon Party	
Left	NDP	Liberal Party	Yukon Party	
Environmental Left	Green	NDP	Liberal Party	Yukon Party
First Nations	Yukon First Nations	NDP	Liberal Party	Yukon Party
Independent	Independent	Liberal Party	Yukon Party	NDP

According to these preference orders, we assume that a conservative voter would be most likely to vote for the Yukon Party as their first choice. We also assume that while centrist voters are most likely to vote Liberal first, their subsequent preferences are likely to be divided between the Yukon Party and the NDP.

In multi-member districts, we assume that party affiliation is the single most important consideration, meaning that conservative voters would rank all Yukon Party candidates above all candidates from other parties, for example.

These preference structures are gross oversimplifications. At best, they represent educated guesses but are not very realistic. For example, it is exceptionally unlikely that every single supporter of a given party has the same exact preference order. However, this assumption makes it much easier to conduct a mock vote.

Assumption 3: In multi-member STV districts, voters' first preferences are the same as they as they were under FPTP. Subsequent preferences are based on party/ideology rather than candidates' individual characteristics.

This is a logical extension of our first assumption, but is not likely the way voters would exercise their preference in real life. In order to make the necessary calculations, we have to fill in missing information about voters' second and third preferences using what amounts to an educated guess.

In addition to the preference rankings above, which are necessary for AV elections in rural districts, we also need to consider what happens when each party has multiple candidates competing against one another in Whitehorse where STV is used. In these hypothetical districts (which we have called Whitehorse North and Whitehorse South), we assume that voters would still rank their preferred FPTP candidate first (per Assumption 2). After that, we assume voters would then rank their remaining preferences based primarily on party lines.[5] This means that if a

[5] The only minor exception to this assumption is for supporters of independent candidates, whom we assume care more about local factors than party affiliation. Therefore, when an independent candidate is eliminated, their votes are

voter's top choice candidate is eliminated, those votes would be redistributed to the next most popular candidate from the same political party. In reality, voters have no reliable way of knowing who the next most popular candidate from their preferred party would be, but we assume that they do in order to simplify counting.

Assumption 4: Voters rank all candidates.

For counting purposes, we assume that voters rank all candidates on the ballot, rather than exhausting their ballots after expressing just one or two choices.

Assumption 5: In multimember districts, parties field as many candidates as there are seats to be won.

This assumption is necessary because we use data based on actual FPTP results. In reality, parties may choose to run fewer candidates to avoid vote-splitting during the counting phase. Determining how many candidates to run in a multimember district is a strategic decision.

Appendix B: Mock Election Results

In the rural ridings using AV, the first round of counting is based exclusively on first preference votes. In the tables below, the candidates highlighted in yellow received a majority and are deemed elected. This would be the case in 3 of the 8 districts in 2021, where the FPTP candidate received more than 50% of the votes.

If no candidate received a majority of first preference votes, the candidate with the fewest first preference votes (highlighted in pink) was then eliminated. This would be the case in the remaining 5 districts. In the second count, the votes for the eliminated candidate have been redistributed to the remaining candidates according to the table, "Preference Assumptions" above. If there was no winner in the second round of counting, the count would proceed to examine third preferences, although this was not necessary in all cases.

---

redistributed to the Liberal Party candidate with the same local links (per assumption 2), rather than the most popular Liberal candidate.

2021 Election: Mock Results (AV)										
	First Count/Preference				Second Count/Preference			Third Count/Preference		
ELECTORAL DISTRICT	YUKON	LIBERAL	NDP	IND.	YUKON	LIBERAL	NDP	YUKON	LIBERAL	NDP	Total
Klondike	364	526	224		364	750		No third count			1114
Kluane	352	219	211		352	430		No third count			782
Lake Laberge	799	229	259		No second count			No third count			1287
Mayo-Tatchun	186	238	208			424	208	No third count			632
Mount Lorne-Southern Lakes	406	446	292		406	738		No third count			1144
Pelly-Nisutlin	362	97	254		No second count			No third count			713
Vuntut Gwitchin		78*	78*		Resolved by drawing lots			No third count			156
Watson Lake	313	237			No second count			No third count			550
										Total	19014
Elected (50%+1)	3				4						7*
	First Count/Preference				Second Count/Preference			Third Count/Preference		

*Not including Vuntut Gwitchin, where the tie was resolved by drawing lots.

2016 Election: Mock Results (AV)											
	First Count/Preference					Second Count/Preference			Third Count/Preference		
ELECTORAL DISTRICT	YUKON	LIBERAL	NDP	GREEN	IND.	YUKON	LIBERAL	NDP	YUKON	LIBERAL	NDP	Total
Klondike	365	687	111			No second count			No third count			1163
Kluane	338	289	153			338	442		No third count			780
Lake Laberge	558	342	261	38		558	342	299	558	641		1199
Mayo-Tatchun	166	331	233				497	233	No third count			730
Mount Lorne-Southern Lakes	284	451	437				735	437	No third count			1172
Pelly-Nisutlin	280	152	207	22		280	152	229	356		305	661
Vuntut Gwitchin	70	77	3			No second count			No third count			150
Watson Lake	299	212	219		38	299	250	219	299	469		768
											Total	6623
Elected (50%+1)		2					3		1	2		8
	First Count/Preference					Second Count/Preference			Third Count/Preference		

2011 Election: Mock Results (AV)											
	First Count/Preference						Second Count/Preference			Third Count/Preference		
ELECTORAL DISTRICT	YUKON	LIBERAL	NDP	F.N.*	GREEN	IND.	YUKON	LIBERAL	NDP	YUKON	NDP	Total
Klondike	404	530	147				404	677		No third count		1081
Kluane	287	219	220	32			287	219	252	396	362	758
Lake Laberge	528	159	330				No second count			No third count		1017
Mayo-Tatchun	214	181	282				304		410	No third count		677
Mount Lorne-Southern Lakes	395	111	488	49			395	111	537	No third count		1043
Pelly-Nisutlin	275	73	178			31	275	104	178	327	230	557
Vuntut Gwitchin	52	93					No second count			No third count		145
Watson Lake	276	165	242			48	276	152	242	352	318	731
											Total	6009
Elected (50%+1)	1	1						1	2	3		8
	First Count/Preference						Second Count/Preference			Third Count/Preference		

*F.N. = First Nations Party

In the Whitehorse STV districts, it is necessary to begin by first calculating the Droop quota, which is based on the total number of votes and seats in each of the new, fictitious multi-member districts. While the formula for the Droop quota remains the same, the actual number of votes required to win a seat is different in each district and each election because it is dependent on the total number of votes cast. The Droop quota ensures that there is the minimum number of votes needed to elect a candidate and that those votes above the quota are redistributed. Each quota is reported in the bottom right corner of the tables below.

To understand the counting process, consider the results in our fictional district of Whitehorse South in 2021. The results of the first count reflect the actual number of votes received by each of the candidates under FPTP. For example, Yukon Party candidate Scott Kent received the most votes with a total of 726 votes. With 5 seats and 5,838, voters the Droop quota for this district would be 974. No candidate received at least 974 votes, so the counting continued and the candidate with the fewest votes was eliminated. (In Whitehorse South 2021, that would be the NDP candidate Ron Davis with 229 votes.) Votes for the eliminated candidate were then redistributed based on our assumptions (see Appendix A). For example, Davis' votes went to the most popular NDP candidate, Vanessa Thorsen, bringing her total from 375 to 604. However, Thorsen still did not have enough votes to meet the quota, so the counting continued to a third round and so on. On the fourth count, Scott Kent received enough redistributed votes to meet the quota. That made Kent the first candidate from Whitehorse South to be elected, leaving four remaining seats. Because Kent received more votes than the quota, his remaining 32 **surplus votes** were transferred to the next most popular Yukon Party candidate, Currie Dixon.

> **Surplus votes** in STV are any extra votes received by a candidate that exceed the number necessary to win (based on the quota). For example, if a candidate received 105 votes but the quota was 100, then that candidate would have a surplus of 5 votes to redistribute.

In each count, the candidate with the lowest votes was eliminated. In the tables below, eliminated candidates are highlighted in pink .In the next count, the votes from the eliminated candidate were redistributed. The candidate(s) who received the redistributed votes are highlighted in purple .Candidates who met the quota and were elected are highlighted in yellow .

The process of elimination and redistribution was repeated until all five seats were filled. In the mock results from Whitehorse South in 2021, this process took 18 rounds of counting.

During counting, it is sometimes possible that the two candidates with the fewest votes (facing elimination) are tied. This happens in our mock results in Whitehorse North in 2016, in round 19 of counting. In the event of a tie, the candidate who had fewer votes in the previous round is eliminated. If the tie persists even after considering previous rounds, a random method, like drawing lots, may be used to break the tie.

It is worth noting that all of the counting that appears below is done 'behind the scenes' by election officials. While voters do not need to know the mechanics of the counting process, the details are presented here so the logic of the electoral outcome can be explained. If a system like this were to be implemented, Elections Yukon would publish the counts and the process of transferring votes for transparency.

The AV/STV Hybrid in the Yukon: A Simulation

2021 Election: Mock Results, Whitehorse North (STV)

PARTY	CANDIDATE	Count 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
YUKON	Yvonne Clarke	704	704	704	704	948	1197	225															
YUKON	Geraldine Van Bibber	562	562	562	562	562	562	562	787	787	787	787	1049	77									
YUKON	Ray Sydney	268	268	268	268	268	268	268	268	268	268	268	268	268	345	345	345	345	345	345	345	485	485
YUKON	Chad Sjodin	262	262	262	262	262	262	262	262	262	262	262											
YUKON	Eileen Melnychuk	249	249	249	249	249																	
YUKON	Morgan Yuill	244	244	244	244																		
LIBERAL	Paolo Gallina	646	646	646	844	844	844	844	844	844	844	844	844	844	844	1153	181						
LIBERAL	Jeanie Mclean (Dendys)	402	428	428	428	428	428	428	428	428	428	428	428	428	428	428	428	609	921	1252	280		
LIBERAL	Staci McIntosh	331	331	331	331	331	331	331	331	331	331	331	331	331	331	331	331	331					
LIBERAL	Dan Curtis	312	312	312	312	312	312	312	312	312	312	312	312	312	312	312	312	312					
LIBERAL	Ranj Pillai	309	309	309	309	309	309	309	309	309	309	309	309	309	309								
LIBERAL	Raj Murugaiyan	198	198	198																			
NDP	Kate White	763	763	847	847	847	847	847	847	1097	125												
NDP	Emily Tredger	498	498	498	498	498	498	498	498	498	498	623	623	623	623	623	623	623	623	623	623	763	1097
NDP	Michelle Friesen	356	356	356	356	356	356	356	356	356	356	356	356	356	356	356	356	356	356	356	356	356	356
NDP	Shonagh McCrindle	334	334	334	334	334	334	334	334	334	334	334	334	334	334	334	334	334	334	334	334	334	
NDP	Francis van Kessel	250	250	250	250	250	250	250	250														
NDP	Colette Acheson	84	84																				
IND.	Coach Jan Prieditis	26																					
	Elected (This Count)	0	0	0	0	0	1	0	0	1	0	0	1	0	0	1	0	0	0	1	0	0	1
	Total Seats Filled	0	0	0	0	0	1	1	1	2	2	2	3	3	3	4	4	4	4	5	5	5	6

Elected
Eliminated (Fewest Votes)
Received Redistributed Votes

Total Votes 6,798
Total Seats 6
Droop Quota: (Votes/(Seats + 1))+1 972

2021 Election: Mock Results, Whitehorse South (STV)

PARTY	CANDIDATE	Count																	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
YUKON	Scott Kent	726	726	726	1006	32													
	Currie Dixon	717	717	717	717	717	749	749	1056	82									
	Angela Drainville	376	376	376	376	376	376	376	376	376	458	458	458	458	458	458	458	458	
	Cynthia Lyslo	307	307	307	307	307	307	307											
	Cory Adams	280	280	280															
LIBERAL	Nils Clarke	469	469	728	728	728	728	728	728	728	728	728	728	728	1074	100			
	Tracy McPhee	415	415	415	415	415	415	415	415	415	415	415	415	415	415	415	515	913	1371
	Richard Mostyn	398	398	398	398	398	398	398	398	398	398	398	398	398	398	398	398		
	Ted Adel	346	346	346	346	346	346	346	346	346	346	346	346	346					
	Sheila Robertson	259	259																
NDP	Vanessa Thorsen	375	604	604	604	604	604	893	893	893	893	1211	237						
	Jason Cook	334	334	334	334	334	334	334	334	334	334	334	334	571	571	571	571	571	571
	Saba Javed	318	318	318	318	318	318	318	318	318	318								
	Kaori Torigai	289	289	289	289	289	289												
	Ron Davis	229																	
	Elected (This Count)	0	0	0	1	0	0	0	1	0	0	1	0	0	1	0	0	0	1
	Total Seats Filled	0	0	0	1	1	1	1	2	2	2	3	3	3	4	4	4	4	5

Elected

Eliminated (Fewest Votes)

Received Redistributed Votes

Total Votes 5,838

Total Seats 5

Droop Quota: (Votes/(Seats + 1))+1 974

The AV/STV Hybrid in the Yukon: A Simulation

2016 Election: Mock Results, Whitehorse North (STV)

PARTY	CANDIDATE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
YUKON	Geraldine Van Bibber	435	435	435	435	628	628	628	628	857	1142	220												
YUKON	Darrell Pasloski	399	399	399	399	399	399	399	399	399	399	399	619	619	619	619	619	998	76					
YUKON	Michelle Kolla	379	379	379	379	379	379	379	379	379	379	379	379	379	379	379	379							
YUKON	Mike Nixon	285	285	285	285	285	285	285	285	285														
YUKON	Vanessa Innes	229	229	229	229	229	229	229	229															
YUKON	Doug Graham	193	193	193	193																			
LIBERAL	Jeane Lassen	478	478	478	478	478	478	478	478	478	478	478	478	478	815	1187	265							
LIBERAL	Paolo Gallina	452	452	452	452	452	452	452	452	452	452	452	452	452	452	452	717	717	717	793	1225	303		
LIBERAL	Jeanie Dendys	439	439	439	439	439	439	439	439	439	439	439	439	439	439	439	439	439	439	439	439	439	742	746
LIBERAL	Tamara Goeppel	432	432	432	432	432	432	432	432	432	432	432	432	432	432	432	432	432	432	432*				
LIBERAL	Eileen Melnychuk	372	372	372	372	372	372	372	372	372	372	372	372	372										
LIBERAL	Ranj Pillai	337	337	337	337	337	337	337	337	337	337	337	337											
NDP	Kate White	605	642	744	889	889	1102	180																
NDP	Liz Hanson	487	487	487	487	487	487	487	667	667	667	667	667	667	667	667	667	667	667	667	668	668	668	1100
NDP	Shaunagh Stikeman	432	432	432	432	432	432	432	432	432	432	432	432	432	432	432	432	432	432	432*	432	432	432	
NDP	Pat Berrel	213	213	213	213	213																		
NDP	Francis van Kessel	145	145	145																				
NDP	Shirley Chua-Tan	102	102																					
GREEN	Mike Ivens	37																						
	Elected (This Count)	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0	0	1	0	0	1	0	0	1
	Total Seats Filled	0	0	0	0	0	1	1	1	1	2	2	2	2	3	3	3	4	4	4	5	5	5	6

Elected

Eliminated (Fewest Votes)

Received Redistributed Votes

Tie during counting; resolved by random method

[Note: the tie during counting did not affect the overall outcome]

Total Votes   6,451

Total Seats   6

Droop Quota: (Votes/(Seats + 1))+1   922

2016 Election: Mock Results, Whitehorse South (STV)

PARTY	CANDIDATE	Count																			
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
YUKON	Pat McInroy	529	529	529	529	529	787	1110	157												
YUKON	Scott Kent	449	449	449	449	449	449	449	449	606	606	606	606	606	606	606	606	606	606	606	1039
YUKON	Elaine Taylor	433	433	433	433	433	433	433	433	433	433	433	433	433	433	433	433	433	433	433	
YUKON	Danny Macdonald	323	323	323	323	323	323														
YUKON	Mark Beese	258	258	258	258	258															
LIBERAL	Ted Adel	566	566	566	566	566	566	566	566	566	566	566	566	980	27						
LIBERAL	Nils Clarke	486	486	486	486	486	486	486	486	486	486	486	486	486	486	513	934	1359	406		
LIBERAL	Richard Mostyn	455	455	455	455	455	455	455	455	455	455	455	455	455	455	455	455	455	455	861	861
LIBERAL	Jocelyn Curteanu	425	425	425	425	425	425	425	425	425	425	425	425	425	425						
LIBERAL	Tracy McPhee	421	421	421	421	421	421	421	421	421	421	421	421	421							
NDP	Jan Stick	384	396	432	538	699	699	699	699	699	1030	77									
NDP	Rod Snow	337	337	337	337	337	337	337	337	337	337	337	414								
NDP	Lois Moorcroft	331	331	331	331	331	331	331	331	331											
NDP	André Bourcier	161	161	161	161																
NDP	Stu Clark	106	106	106																	
GREEN	Kristina Calhoun	36	36																		
GREEN	Phillipe Leblond	12																				
	Elected (This Count)	0	0	0	0	0	0	1	0	0	1	0	0	1	0	0	0	1	0	0	1
	Total Seats Filled	0	0	0	0	0	0	1	1	1	2	2	2	3	3	3	3	4	4	4	5

Elected

Eliminated (Fewest Votes)

Received Redistributed Votes

Total Votes	5,712
Total Seats	5
Droop Quota: (Votes/(Seats + 1))+1	953

The AV/STV Hybrid in the Yukon: A Simulation

2011 Election: Mock Results, Whitehorse North (STV)

PARTY	CANDIDATE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
																	Count							
YUKON	Darrell Pasloski	480	480	480	480	480	682	682	682	682	682	682	682	682	682	682	682	939	213					
	Doug Graham	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	613	911	185		
	Samson Hartland	316	316	316	316	316	316	316	316	316	316	316	316	316	316	316	316	316	316	316	316	316	501	695
	David Laxton	298	298	298	298	298	298	298	298	298	298	298	298	298	298	298	298	298	298	298				
	Mike Nixon	257	257	257	257	257	257	257	257	257	257	257	257	257	257	257	257							
	Marian Horne	202	202	202	202	202																		
LIBERAL	Kerry Huff	245	245	327	327	431	431	647	871	145														
	Don Inverarity	243	243	243	243	243	243	243	243	243	388	388	388	388	388	388	388	388	388	388	388	388	388	
	Cherish Clarke	224	224	224	224	224	224	224																
	Dave Sloan	216	216	216	216	216	216																	
	Patrick Singh	104	104	104	104																			
	Dawn Beauchemin	82	82																					
NDP	Elizabeth (Liz) Hanson	525	594	594	693	693	693	693	693	693	693	923	197											
	Kate White	458	458	458	458	458	458	458	458	458	458	458	458	655	908	182								
	Stephen Dunbar-Edge	376	376	376	376	376	376	376	376	376	376	376	376	376	376	376	558	558	558	558	558	558	558	753
	Mike Tribes	253	253	253	253	253	253	253	253	253	253	253	253	253										
	Jean-François Des Lauriers	230	230	230	230	230	230	230	230	230	230													
	John Carney	99	99	99																				
GREEN	Mike Ivens	69																						
	Elected (This Count)	0	0	0	0	0	0	0	1	0	0	1	0	0	1	0	0	1	0	0	1	0	0	1
	Total Seats Filled	0	0	0	0	0	0	0	1	1	1	2	2	2	3	3	3	4	4	4	5	5	5	6

Elected

Eliminated (Fewest Votes)

Received Redistributed Votes

Total Votes 5,077
Total Seats 6
Droop Quota: (Votes/(Seats + 1))+1   726

2011 Election: Mock Results, Whitehorse South (STV)

PARTY	CANDIDATE	Count																		
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
YUKON	Currie Dixon	520	520	520	520	520	520	520	520	520	520	520	520	834	43					
	Elaine Taylor	422	422	422	422	422	422	422	422	422	422	422	422	422	422	465	831	40		
	Valerie Boxall	394	394	394	394	394	394	394	394	394	394	394	394	394	394	394	394	394	434	
	Scott Kent	366	366	366	366	366	366	366	366	366	366	366	366	366	366	366				
	Glenn Hart	314	314	314	314	314	314	314	314	314	314	314	314							
LIBERAL	Arthur Mitchell	407	407	407	407	591	800	9												
	Christie Richardson	289	289	289	289	289	289	289	298	572	572	572	572	572	572	572	572	572	572	1006
	Dan Curtis	274	274	274	274	274	274	274	274											
	Cully Robinson	209	209	209	209	209														
	Colleen Wirth	184	184	184	184															
NDP	Lois Moorcroft	397	432	526	685	685	685	685	685	685	981	190								
	Jan Stick	380	380	380	380	380	380	380	380	380	380	380	570	570	570	570	570	570	570	570
	Peter Lesniak	296	296	296	296	296	296	296	296	296										
	Skeeter Miller-Wright	159	159	159																
	Louis R. Gagnon	94	94																	
GREEN	Kristina Calhoun	35																		
	Elected (This Count)	0	0	0	0	0	1	0	0	0	1	0	0	1	0	0	1	0	0	1
	Total Seats Filled	0	0	0	0	0	1	1	1	1	2	2	2	3	3	3	4	4	4	5

Elected

Eliminated (Fewest Votes)

Received Redistributed Votes

Total Votes	4,740
Total Seats	5
Droop Quota: (Votes/(Seats + 1))+1	791

Mixed-Member Proportional (MMP)
How might it work in The Yukon?

Yukon Citizens' Assembly on Electoral Reform
Working Paper on Elections Modelling

Part 4 of 4

FPTP – AV – AV/STV – **MMP**

Jonathan Rose, Queen's University
Laura Levick, St. Thomas University

Appendix A: Yukon Electoral System Scenarios

Table of Contents

What is Mixed-Member Proportional?

Mixed-Member Proportional or MMP is an electoral system that blends elements of single-member districts with proportional representation. It aims to combine strong local representation with a fairer overall distribution of seats in the legislature, ensuring that a party's share of seats reflects its share of the popular vote.

In MMP, the number of seats a party receives in the legislature is determined by the **party list vote**. In this sense, the system is generally proportional.

MMP allows voters to cast two votes: one for a **party list** and one for a local candidate. Local representatives are elected based on the candidate vote in each geographic district (or riding). The local candidate with the most votes wins.

Unlike FPTP and AV, there are additional seats in the legislature that are not elected in ridings. After the local candidates have been elected, these extra seats are distributed amongst the political parties based on their overall proportion of the **party list vote**. This ensures that the final distribution of seats reflects the share of the vote received by each party, thus making it **proportional**.

Where is MMP used?

MMP systems are used in Germany and New Zealand. In the UK, a variation is also used in regional elections in Scotland and Wales.

How does MMP work?

Ballot Structure

In MMP, voters cast two distinct votes on a single ballot. One vote is for a candidate in their local district, and the other is for a political party. Thus, the ballot is usually divided into two sections.

One side of the ballot lists individual candidates competing to represent the riding. Similar to FPTP, in most variations, voters indicate their preferred candidate by choosing only one name from the list. As in FPTP, the candidate with the most votes in each constituency wins a seat in the legislature.

Example Ballot: MMP

Vote for your local candidate | Vote for the party of your choice

	Candidate Name *Fireweed Party*
	Candidate Name *Mountain Party*
	Candidate Name *Spruce Party*
X	Candidate Name *River Party*
	Candidate Name *Independent*

X	Fireweed Party
	Mountain Party
	Spruce Party
	River Party

The other side of the ballot lists political parties. Voters select their preferred party, which determines how many seats each party gets in the legislature. The number of seats is roughly proportional to the percentage of party votes each party receives.

Both votes are counted separately, so voters can choose a local candidate from one party (left side of the example ballot) and support a different party in the party vote (right side). This flexibility gives voters more choices but can make vote counting more complex.

> A party might win more seats in the district elections than it would be entitled to based on its share of the party vote. These temporary extra seats are known as **overhang seats**.

District Magnitude

District magnitude refers to the number of representatives elected from an electoral district. MMP systems use a combination of single-member districts and multi-member districts, so understanding district magnitude requires looking at both aspects of the system.

Each local, single-member district has a district magnitude of one because, like FPTP, only one representative is elected from each district.

Alongside single-member districts, MMP includes a proportional system where voters cast a separate vote for a party. Seats are then allocated based on the percentage of the party vote, adjusted to ensure overall proportionality. To achieve proportionality, these seats are allocated through multi-member districts, which may cover large regions (Germany) or even the entire country (New Zealand). The number of seats allocated this way determines the district magnitude for the proportional component of MMP.

In general, the larger the number of party list seats, the greater the proportionality of the system. In New Zealand, 72 out of 120 seats are reserved for local representatives (60%), with the remaining 48 seats (40%) distributed based on the party list vote. In Germany, about half of the 598 seats in the federal parliament are elected from single-member districts. Both MMP systems are highly proportional.

Electoral Formula

In MMP, the electoral formula ensures that the overall composition of the legislature reflects the proportion of votes each party receives, while also providing for local representation.

In proportional electoral systems, there are two ways to distribute seats. The **highest average method** (like D'Hondt or Sainte-Laguë) allocates seats by dividing each party's vote total by a series of divisors, awarding seats to the highest resulting averages. The **largest remainder method**, on the other hand, determines the number of votes needed to secure one seat (a **quota**). Seats are allocated based on how many full quotas each party received, then the remaining seats are distributed to the parties with the most leftover votes.

The number of seats a party receives in an election is based on the party vote. A formula is used to determine how many seats each party should get. [1] The purpose of the formula is to ensure **proportionality**. For example, if a legislature has 50 seats and the Mountain Party received 30% of all the party votes, it would be entitled to 15 seats in the legislature (that is, 30% of 50 seats).

Once the total number of seats each party is entitled to has been calculated, it is necessary to allocate the local riding seats. The candidates who won the most votes in each riding are guaranteed a seat in the legislature. Like FPTP, the winner of each local election is determined by the principle of "most votes wins." Winning candidates do not need to receive a majority of total votes.

These local seats are then deducted from the total number of seats a party is entitled to based on its party vote. To ensure proportional representation, there must be more seats in the legislature than there are local districts. Once the local seats have been filled, the remaining seats (the party list seats) are allocated to parties based on their party vote, filling up to their entitlement after accounting for the local seats they have won. To continue the example above, if the local Mountain Party candidates were elected in 8 ridings, they would receive a 'top up' of 7 seats from the party list since they are 'entitled' to 30% of the legislature (a total of 15 seats).

In some cases, a party wins more local seats than it would ordinarily be entitled to based on its proportional share of the party vote. These additional seats are known as **overhang seats**. In general, the more imbalanced the ratio of local seats to party seats, the greater the need for overhang seats. Overhang seats tend to reduce the proportionality of MMP results unless they are balanced out by so-called **levelling seats**.

Levelling seats are additional seats allocated to parties to ensure that their share of seats in the legislature matches their overall share of the vote. These seats correct any **disproportionality** caused by the FPTP results in constituency elections (i.e., **overhang seats**).

---

[1] Both Germany and New Zealand use the Sainte-Laguë highest averages method, which involves dividing the total number of votes received by each party votes by a series of odd numbers (1, 3, 5, 7, etc.) known as divisors. In the first step, each party's total votes are divided by an initial divisor (1). The party with the highest quotient (that is, the most total votes, divided by 1) is awarded the first seat. After winning a seat, that party's vote total is then divided by the next odd number (3) in the series. The next seat is awarded to the party with the highest quotient, and so on until all the seats have been distributed.

Government Formation

MMP is meant to ensure proportional representation, which means single-party majority governments are unlikely, though not impossible. Instead, minority and coalition governments are more likely.

New Zealand has used MMP in 10 elections. Only one (in 2020) resulted in a single-party majority government. Five resulted in formal coalitions (where two parties agree to share cabinet seats and governing), with the remaining four resulting in minority governments propped-up by supply and confidence agreements with other parties.

Germany has held 20 elections using MMP. Only once (in 1957) has the result been a single-party majority. Coalition governments are the norm.

Minority governments and supply and confidence agreements have advantages and disadvantages. On the one hand, input from smaller parties ensures that a wider diversity of opinion is represented.[2] On the other hand, the compromise required to form a coalition/negotiate opposition support can make it difficult for voters to attribute blame/reward for specific policies. It is also the case that these governments (and especially minority governments) may be comparatively short-lived, requiring more frequent elections, although this is not always the case.

Thresholds

Most countries that use proportional electoral systems (including MMP) set a legal threshold to specify the minimum share of votes that a party must receive in order to be represented in the legislature. The purpose of thresholds is to prevent very small parties from winning, thus keeping out fringe or extremist parties. In Germany and New Zealand, the threshold is 5%. Parties that receive less than 5% of the votes will not win any list seats at all, although candidates who win in their local district elections are still guaranteed a seat in the legislature.

How might MMP work in the Yukon?

Using actual election results, it is possible to imagine how an MMP system might work in the Yukon. *However, these mock election results should be interpreted with caution.* Changing the electoral system is likely to have cascading effects that can be unpredictable.

There are several issues that arise when it comes to implementing MMP in the Yukon. The first is the size of the legislature. We have assumed that the current 19 local ridings would continue to exist, but made an arbitrary decision to enlarge the legislature by having 5 party list seats, decided by a territory-wide count. This would mean that the legislature would increase to 24 MLAs. There are many other ways to implement MMP, including adding more than five party seats (five is quite a low number and close to the minimum), and increasing or decreasing the

---

[2] See: Jack Nagel, 2012. "Evaluating Democracy in New Zealand under MMP." *Policy Quarterly* 8 (2): 3–11.

number of local districts. These decisions would greatly affect the relative proportionality of the system, and are discussed in greater detail in Appendix A.

In order to conduct a mock election under a different system, it is also necessary to make some very big assumptions about how Yukon voters might cast their ballots under different rules. However, it is impossible to know how accurate these assumptions are. For a detailed explanation of these assumptions, see the Appendix.

The table below summarizes the differences between the actual election results and the projected results under MMP for the 2021, 2016, and 2011 Yukon elections. Green values indicate that a party could expect to win more seats under MMP than it did under FPTP. Red values indicate that party could expect to lose seats under MMP.

Given our assumptions, the results suggest that MMP would benefit smaller parties that are most disadvantaged by the disproportionality of the existing system. However, very small parties or independent candidates who would not meet the 5% threshold and did not receive enough votes in any local district to win a seat would not see an advantage.

Table 1: Projected Seat Difference

2021 Election

Party	Actual Seats under SMP	Projected Seats under MMP	Number of Party Seats
YUKON PARTY	8	9	1
YUKON LIBERAL PARTY	8	8	0
YUKON NDP	3	7	4
INDEPENDENT CANDIDATES	0	0	0
Total	19*	24	

2016 Election

Party	Actual Seats under SMP	Projected Seats under MMP	Number of Party Seats
YUKON PARTY	6	8	2
YUKON LIBERAL PARTY	11	11	0
YUKON NDP	2	6	4
YUKON GREEN PARTY	0	0	0
INDEPENDENT CANDIDATES	0	0	0
Total	19	25*	

2011 Election

Party	Actual Seats under SMP	Projected Seats under MMP	Number of Party Seats
YUKON PARTY	11	11	0
YUKON LIBERAL PARTY	2	6	4
YUKON NDP	6	8	2
YUKON GREEN PARTY	0	0	0
YUKON FIRST NATIONS PARTY	0	0	0
INDEPENDENT CANDIDATES	0	0	0
Total	19	25*	

Mock Election Results

These mock election results are based on official election results published by Elections Yukon.

Following the assumptions explained in Appendix A, the local results would remain unchanged. This means our calculations are focused on the 5 new party list seats, plus any additional overhang seats.

In the tables below, the candidates who won their local district elections under MMP are the same candidate who actually won under FPTP. The remaining party list seats (highlighted in purple) have been allocated using the Sainte-Laguë method. To understand how we calculated the results, see Appendix B at the end of this document.

2021 Election: Mock Results, Winners

Local District	Winner using MMP	
Copperbelt North	Currie Dixon	YUKON
Copperbelt South	Scott Kent	YUKON
Klondike	Sandy Silver	LIBERAL
Kluane	Wade Istchenko	YUKON
Lake Laberge	Brad Cathers	YUKON
Mayo-Tatchun	Jeremy Harper	LIBERAL
Mount Lorne- Southern Lakes	John Streicker	LIBERAL
Mountainview	Jeanie Mclean (Dendys)	LIBERAL
Pelly-Nisutlin	Stacey Hassard	YUKON
Porter Creek Centre	Yvonne Clarke	YUKON
Porter Creek North	Geraldine Van Bibber	YUKON
Porter Creek South	Ranj Pillai	LIBERAL
Riverdale North	Nils Clarke	LIBERAL
Riverdale South	Tracy McPhee	LIBERAL
Takhini-Kopper King	Kate White	NDP
Vuntut Gwitchin	Annie Blake	NDP
Watson Lake	Patti McLeod	YUKON
Whitehorse Centre	Emily Tredger	NDP
Whitehorse West	Richard Mostyn	LIBERAL
Party List Seats	Eric Schroff	YUKON
	Vanessa Thorsen	NDP
	Michelle Friesen	NDP
	Shonagh McCrindle	NDP
	Jason Cook	NDP

2016 Election: Mock Results, Winners

Local District	Winner using MMP	
Copperbelt North	Ted Adel	LIBERAL
Copperbelt South	Scott Kent	YUKON
Klondike	Sandy Silver	LIBERAL
Kluane	Wade Istchenko	YUKON
Lake Laberge	Brad Cathers	YUKON
Mayo-Tatchun	Don Hutton	LIBERAL
Mount Lorne- Southern Lakes	John Streicker	LIBERAL
Mountainview	Jeanie Dendys	LIBERAL
Pelly-Nisutlin	Stacey Hassard	YUKON
Porter Creek Centre	Paolo Gallina	LIBERAL
Porter Creek North	Geraldine Van Bibber	YUKON
Porter Creek South	Ranj Pillai	LIBERAL
Riverdale North	Nils Clarke	LIBERAL
Riverdale South	Tracy McPhee	LIBERAL
Takhini-Kopper King	Kate White	NDP
Vuntut Gwitchin	Pauline Frost	LIBERAL
Watson Lake	Patti McLeod	YUKON
Whitehorse Centre	Liz Hanson	NDP
Whitehorse West	Richard Mostyn	LIBERAL
Party List Seats	Darrell Pasloski	YUKON
	Elaine Taylor	YUKON
	Kevin Barr	NDP
	Shaunagh Stikeman	NDP
	Jan Stick	NDP
	Rod Snow	NDP

2011 Election: Mock Results, Winners

Local District	Winner using MMP	
Copperbelt North	Currie Dixon	YUKON
Copperbelt South	Lois Moorcroft	NDP
Klondike	Sandy Silver	LIBERAL
Kluane	Wade Istchenko	YUKON
Lake Laberge	Brad Cathers	YUKON
Mayo-Tatchun	Jim Tredger	NDP
Mount Lorne- Southern Lakes	Kevin Barr	NDP
Mountainview	Darrell Pasloski	YUKON
Pelly-Nisutlin	Stacey Hassard	YUKON
Porter Creek Centre	David Laxton	YUKON
Porter Creek North	Doug Graham	YUKON
Porter Creek South	Mike Nixon	YUKON
Riverdale North	Scott Kent	YUKON
Riverdale South	Jan Stick	NDP
Takhini-Kopper King	Kate White	NDP
Vuntut Gwitchin	Darius Elias	LIBERAL
Watson Lake	Patti McLeod	YUKON
Whitehorse Centre	Elizabeth (Liz) Hanson	NDP
Whitehorse West	Elaine Taylor	YUKON
Party List Seats	Arthur Mitchell	LIBERAL
	Christie Richardson	LIBERAL
	Dan Curtis	LIBERAL
	Kerry Huff	LIBERAL
	Stephen Dunbar-Edge	NDP
	Frank Turner	NDP

The projected results should be interpreted with caution, as they are based on several untestable assumptions. They do not and cannot fully account for changes in voter behaviour and party strategy that would come from a switch to MMP. At best, they are simplified abstractions. However, the point of these mock elections is not to provide an accurate prediction of which party or candidates might win under MMP, but to show some of the important features of the system in action.

In that sense, there are some notable trends. Most obviously, this form of MMP is more proportional than FPTP as it rewards parties that did not win seats in FPTP but did have territory-wide supports. This is due to the five extra seats added to the legislature (the party list seats).

Note that the 2021 election had a total of 24 winners, while 2016 and 2021 had 25. This is because no overhang seats were necessary in 2021, while the 2016 and 2011 elections would each have required one additional seat be added to the legislature. Because we assume voters would not engage in split-ticket voting, we are likely also underestimating the number of overhang seats that would be necessary in reality. The small number of list seats used in this scenario to achieve a degree of proportionality also makes overhang seats more likely.

In 2016, Yukon Party leader Darrell Pasloski lost his seat in the riding of Mountainview. However, under MMP it is likely that he would have been elected anyway, since the Yukon Party would have been allocated 2 party list seats in that election, and, as party leader, his name would almost certainly have been at the top of that list. This is based on an assumption that MMP in the Yukon would permit **dual candidacy**, meaning that candidates could be on the party list and also run in a local district.

How does MMP align with the values of the Yukon Citizens' Assembly?

Legitimacy

The legitimacy of MMP is generally considered[3] high in terms of both democratic representation and fairness. It is also worth considering a broader definition of legitimacy that considers the values of the Yukon electorate.

To that end, the results of the May 2022 survey prepared for the Special Committee on Electoral Reform of the 35th Yukon Legislative Assembly by the by Yukon Bureau of Statistics are useful. The survey polled all Yukon residents aged 16 years and over and received a response rate of 17.1%.

The survey asked several relevant questions that relate to the core advantages of MMP: local representation and the importance of proportionality—that is, the degree to which a party's share of the vote is reflected in its share of the seats.

On local representation, which is a particular strength of MMP, the survey found an overwhelming majority of respondents (78.4%) agreed or strongly agreed that Yukon's electoral system should ensure that voters elect local candidates to represent them.

Respondents were divided over their preferences for majority or minority government.

However, a clear majority (71.6%) agreed or strongly agreed that Yukon's electoral system should result in a proportional relationship between a party's vote share and seat share. This suggests an MMP system with an element of proportionality is likely to be perceived as legitimate by Yukon voters. In the survey, 46.1% of respondents though the number of MLAs should remain the same, but 45.1% thought it should increase. Of this latter percentage, 29.6%

---

[3] Matthew Soberg Shugart and Martin P. Wattenberg (eds). New York: Oxford University Press, 2001.

were supportive of an increase to improve representation and 15.5% to support a different voting system.

Fairness

Fairness is not the same as proportionality. Like legitimacy, fairness is based on both procedure and perception. Procedural fairness is possible using any system, as long as the procedures are clear and followed impartially.

The proportional logic of MMP can reasonably claimed to be fair. Because the proportion of seats won by each party is meant to reflect the proportion of votes they receive, this ensures minority groups have representation proportional to their support. By balancing proportionality with local representation, MMP seeks to blend the greatest advantages of FPTP with proportional systems.

There are several possible sources of perceived unfairness under MMP. One relates to the use of thresholds, which prevent very small parties from gaining seats. Another involves the use of overhang seats, which can diminish the overall proportionality of the result. Finally, the combination of local and party list seats has been criticized for creating a "two-tier" system when it comes to representatives. Some MLAs will have direct ridings they are from and accountable to, while others are elected by a Territory-wide vote.   Moreover, as our simulation shows, smaller parties are more likely to have more party elected MLAs than those elected in ridings.

Local Representation & Accountability

Locally elected representatives are directly answerable to their constituents. They are expected to address local concerns, provide services, and advocate for their district's needs in parliament. The local seat ensures individual and regional representation, while the party list ensures proportional representation at the national level. This balance provides a comprehensive approach to representing both local and Territory-wide interests.

Transparency

MMP is transparent once the voter remembers that the share of seats in the legislature is determined by the party vote. The party seats (sometimes called compensatory seats) compensate for the disproportionality at the local riding level. The addition of overhang and/or levelling seats can add complexity to the final result.

Participation

MMP may encourage greater participation since it allows for more choice by allowing voters to choose a local candidate that it different than their party choice. This system may also encourage participation from supporters of smaller parties. It also may result in a legislature with more diverse parties.

Simplicity/Accessibility

Both voting and counting are more complex under MMP than they are under FPTP. Casting two separate votes allows voters the option to choose a distinct MLA who may or may not be from the party they would prefer to form government. However, while the basic logic of proportionality is easy to follow, it can be difficult to understand exactly how the outcome was reached.

What are the potential unintended consequences of MMP?

There are several possible unintended consequences of MMP.

First, the two-vote system (local and party list) can be confusing for some voters, leading to misunderstandings about how to express their preferences and how their votes affect the election outcome. The complex structure of MMP ballots might deter voter engagement or result in errors. However, when New Zealand switched from FPTP to MMP, voters caught on quickly to the logic and changed their preferences accordingly.

Second, because of the proportional nature of MMP, there may be an increased number of small parties in the legislature, which might increase fragmentation and make forming stable coalitions more challenging. Some critics of proportional representation also worry that small extremist parties may be more likely to win seats. Other countries' use of MMP will be different than the Yukon, which has its own political culture so a large number of small parties may not be likely. The use of a threshold and a smaller proportion of list seats can mitigate this concern.

Third, the use of **overhang** and **levelling seats** may temporarily increase the size of the legislature. In the 2021 German election, for example, these additional seats increased the size of the 598-member legislature by over 22% to 735 seats. An increase of this magnitude is highly unlikely in the Yukon since the legislature is so much smaller.

Fourth, although they are elected from across the Territory, parties would need to determine where the party list MLAs come from. If they are mostly from urban areas, this might exacerbate the urban-rural divide. Party MLAs could, however, be used to increase gender or Indigenous representation, or representation from rural areas.

Lastly, MMP effectively creates two different types of MLA: those who represent a local riding and those who do not. In theory, this means some MLAs would be burdened with constituency responsibilities while others would not, potentially creating tensions among members of the same party. In practice, however, there is little evidence of such friction, and permitting dual candidacy means even MLAs elected from the party list have strong community ties.

Appendix A: Assumptions

Assumption 1: The boundaries of local electoral districts will remain the same under MMP as they are under FPTP.

If we assume that the boundaries of the local districts would not change, adopting MMP would require the addition of new party list seats in the Yukon legislature. How many seats should be added? That depends on balancing proportionality with the size of the legislature.

MMP provides both proportionality and local representation. The degree of proportionality depends on the ratio of local seats to party list seats. The larger the relative proportion of party list to local seats, the more proportional the result. In Germany, the ratio is 1:1. In New Zealand, the ratio is 3:2.

In the Yukon, a proportional result would also necessitate either increasing the size of the legislature or increasing the size of the local ridings, or both. We chose to increase only the size of the legislature for this scenario.

Assumption 2: The size of the legislature should be increased by 5 seats.

If the boundaries of the existing 19 local seats remained the same, the addition of 5 new party list seats would increase the size of the legislature to 24 seats. A ratio of 19:5 is on the less proportional side of the MMP spectrum, which may necessitate more overhang seats. However, it is meant to reflect the preferences of Yukon voters, as expressed in the May 2022 survey conducted by the Yukon Bureau of Statistics and prepared for the Special Committee on Electoral Reform of the 35th Yukon Legislative Assembly. That survey found 46.1% of respondents felt the Yukon Legislative Assembly should remain the same size, while 45.1% said they thought it should increase, either to improve levels of representation (29.6%), or to support a different voting system (15.5%). Thus, a small increase seems to be the most reasonable option.

Assumption 3: We use the Sainte-Laguë method to allocate seats.

As to the electoral formula, we assume the use of the Sainte-Laguë method. Relative to other methods such as the D'Hondt method, Sainte-Laguë tends to favour smaller parties. However, it is also the most widely used system in MMP elections.

Assumption 4: We assume the use of overhang seats.

We assume the use of overhang seats, but not levelling seats, as in New Zealand. This means the actual size of the legislature would ordinarily be 24, but that number may occasionally increase if a party wins more local districts than it would ordinarily be entitled to based on the party list vote.

*Assumption 5: We allow for **dual candidacy**.*

Dual candidacy is a notable feature of MMP systems. It refers to the practice of allowing candidates to stand for election in a specific local district while also appearing on their party's list. This essentially provides dual candidates with two possible pathways of being elected. Even a candidate who loses in their local election may still be elected to the legislature if their name is high enough on the **party list**.

Dual candidacy has both advantages and disadvantages. On the one hand, it can enhance local representation by encouraging strong candidates to run even if they are not guaranteed to win a constituency seat, as they can still be elected through the party list. On the other hand, it can leave local voters frustrated if losing candidates still end up in the legislature.

Both Germany and New Zealand permit dual candidacy, as do our models.

Assumption 6: Party lists are ordered based on candidate popularity, with party leaders at the top.

We have no way of knowing how political parties in the Yukon would organize their party lists. However, because we assume dual candidacy (Assumption 5), we also assume that the party list consists of the names of all the local candidates. In a place with a small population like the Yukon, it makes sense that there would generally not be different names on the party list than those seeking election in ridings.

In countries that use MMP, the party leader generally occupies the number one spot on the party list. We assume the same would happen in the Yukon. We assume the remaining spots will be assigned based on the popularity of each candidate, decided by the party.

Because a candidate cannot win two seats, candidates who win a local seat are not eligible to win a party list seat. This means that in our mock elections, the candidates elected from the party list will be those who lost their local constituency elections but received the most votes overall.

> **The Party List:** Once a party's local seats have been filled, its remaining seats are normally allocated based on the ordering of names on the party list. The party leadership decides on this ordering, and typically considers factors such as experience, popularity, gender balance, and party loyalty. The higher on the list a candidate's name appears, the more likely it is they will be allocated a seat.

Assumption 7: In local elections, we assume that voters would vote for the same candidate as they did under FPTP.

Both FPTP and MMP prioritize local representation. Since local elections in MMP work essentially the same way they do in FPTP, this assumption makes sense.

Assumption 8: We assume that voters did not "split their tickets".

MMP gives each voter two votes: one for a local candidate, and one for a party list. Both votes are counted separately, so voters are free to vote for a candidate from one party to represent them locally and a different party choice for their choice of the governing party.

Voters engage in **split-ticket voting** when they want to use their two votes to support candidates from different parties. For example, voters might prefer a local candidate from the 'Mountain Party' based on their local connections, expertise, and other qualifications. However, they might also prefer to use their party list vote to support the 'Spruce Party,' based on their political ideology or perceptions of government performance.

> In New Zealand's first 2 elections with MMP, around 30-40% of voters used a **split-ticket voting** strategy.

Split-ticket voting maximizes voter choice and nuanced preferences for local versus general representation. It can also strengthen local constituency ties. In addition, it can reduce strategic voting by allowing supporters of smaller parties or parties that are unlikely to win in their local district to cast a sincere vote for their preferred party, while also voting strategically for their local representative.

However, because we have no way of knowing why voters voted the way they did under FPTP—that is, whether their vote was based on ideology or local considerations or both—we assume MMP voters will not split their tickets. In other words, we assume Yukon voters who actually voted for a particular local candidate under FPTP would also vote for that candidate's political party with their second vote, if given the chance under MMP.

Assumption 9: We assume a 5% threshold.

In other countries that use MMP, thresholds are typically used are used to determine which parties are eligible to receive seats in the proportional representation component of the system. Thresholds are designed to prevent very small or fringe parties from gaining seats, which helps maintain a manageable number of parties in the legislature and limit ideological extremism.

We assume a 5% threshold, which is similar to New Zealand. Parties that received fewer than 5% of overall vote and that also failed to win a single constituency seat are therefore excluded from proportional seat allocation.

Appendix B: Mock Election Results

To calculate the number of seats that should be allocated to each party, we used actual election results published by Elections Yukon.

In the first step, we follow the Sainte-Laguë method, which is also used in Germany and New Zealand. The method is illustrated in the tables below. Each party's total votes (listed in the first row below the party name) are divided by a series of divisors (listed in the first column). For example, in the 2021 election, the Yukon party received a total of 7477 votes, the Liberals 6155, and the NDP 5356. These numbers appear in the first row, which contains the corresponding divisor of 1. In the next row down, these numbers are divided by the next divisor, which is 3. In the row below that, the divisor is 5, and so on.

Seats are allocated to the parties based on the highest quotients (that is, largest numbers) in the table. Since there are 24 seats to be allocated (19 local + 5 party list seats), the 24 highest quotients in each table are highlighted in purple . For example, in 2021, 7 of the highest 24 quotients belong to the NDP. Therefore, the NDP would be eligible for 7 seats, based on its overall proportion of the vote. Pink values indicate that a party was not eligible to receive party list seats, as it did not meet the 5% threshold. (For more information on the threshold, see Appendix A.)

2021 Election: MMP Seat Allocation by Party

Sainte-Laguë Divisor	YUKON	LIBERAL	NDP	INDEPENDENT
1	7477	6155	5356	26
3	2492	2052	1785	9
5	1495	1231	1071	5
7	1068	879	765	4
9	831	684	595	3
11	680	560	487	2
13	575	473	412	2
15	498	410	357	2
17	440	362	315	2
19	394	324	282	1
21	356	293	255	1
23	325	268	233	1
25	299	246	214	1
27	277	228	198	1
29	258	212	185	1
31	241	199	173	1
33	227	187	162	1
35	214	176	153	1
37	202	166	145	1
Total	7477	6155	5356	26
Total %	39%	32%	28%	0%
Seat Entitlement	9	8	7	Not Eligible (Under Threshold)

2021 Election: MMP Seat Allocation by Party

Sainte-Laguë Divisor	YUKON	LIBERAL	NDP	GREEN	INDEPENDENT
1	6272	7404	4927	145	38
3	2091	2468	1642	48	13
5	1254	1481	985	29	8
7	896	1058	704	21	5
9	697	823	547	16	4
11	570	673	448	13	3
13	482	570	379	11	3
15	418	494	328	10	3
17	369	436	290	9	2
19	330	390	259	8	2
21	299	353	235	7	2
23	273	322	214	6	2
25	251	296	197	6	2
27	232	274	182	5	1
29	216	255	170	5	1
31	202	239	159	5	1
33	190	224	149	4	1
35	179	212	141	4	1
37	170	200	133	4	1
Total	6272	7404	4927	145	38
Total %	33%	39%	26%	1%	0%
Seat Entitlement	8	10	6	Not Eligible (Under Threshold)	

2011 Election: MMP Seat Allocation by Party

Sainte-Laguë Divisor	YUKON	LIBERAL	NDP	FIRST NATIONS	GREEN	INDEPENDENT
1	6400	4008	5154	81	104	79
3	2133	1336	1718	27	35	26
5	1280	802	1031	16	21	16
7	914	573	736	12	15	11
9	711	445	573	9	12	9
11	582	364	469	7	9	7
13	492	308	396	6	8	6
15	427	267	344	5	7	5
17	376	236	303	5	6	5
19	337	211	271	4	5	4
21	305	191	245	4	5	4
23	278	174	224	4	5	3
25	256	160	206	3	4	3
27	237	148	191	3	4	3
29	221	138	178	3	4	3
31	206	129	166	3	3	3
33	194	121	156	2	3	2
35	183	115	147	2	3	2
37	173	108	139	2	3	2
Total	6400	4008	5154	81	104	79
Total %	34%	21%	27%	0%	1%	0%
Seat Entitlement	10	6	8	Not Eligible (Under Threshold)		

Once the party seat allocations have been determined based on the party list vote, the seats were then filled beginning with the winners of the local candidate elections. In our mock elections, those winners are the same as the actual winners under FPTP.

Using these assumptions, the Liberal Party in 2016 and the Yukon Party in 2011 would have won more local seats than they would otherwise have been entitled to based on the party vote. As a result, these parties were awarded overhang seats.

If a party was allocated more seats than it won local elections, the remaining seats were filled based on the party list. The party list consists of the names of all the local candidates, ordered by popularity with the leader at the top. Thus, the first seat on the party list goes to the party leader (if they did not win their own local seat), and the next to the next most popular candidate, etc. until all party list seats are filled.

In the tables below, candidates highlighted in yellow won their local district elections. These are the same candidate who actually won under FPTP. Under MMP, the candidates highlighted in purple would have won the remaining party list seats allocated to each party.

2021 Election: Projected Results

ELECTORAL DISTRICT	YUKON PARTY		YUKON LIBERAL PARTY		YUKON NDP		INDEPENDENT CANDIDATES	
Copperbelt North	Currie Dixon	717	Ted Adel	346	Saba Javed	318	N/A	N/A
Copperbelt South	Scott Kent	726	Sheila Robertson	259	Kaori Torigai	289	N/A	N/A
Klondike	Charlie Dagostin	364	Sandy Silver	526	Chris Clarke	224	N/A	N/A
Kluane	Wade Istchenko	352	Luke Campbell	219	Dave Weir	211	N/A	N/A
Lake Laberge	Brad Cathers	799	Tracey Jacobs	229	Ian Angus	259	N/A	N/A
Mayo-Tatchun	Peter Grundmanis	186	Jeremy Harper	238	Patty Wallingham	208	N/A	N/A
Mount Lorne-Southern Lakes	Eric Schroff	406	John Streicker	446	Erik Pinkerton	292	N/A	N/A
Mountainview	Ray Sydney	268	Jeanie Mclean (Dendys)	402	Michelle Friesen	356	Coach Jan Prieditis	26
Pelly-Nisutlin	Stacey Hassard	362	Katherine Alexander	97	George Bahm	254	N/A	N/A
Porter Creek Centre	Yvonne Clarke	704	Paolo Gallina	646	Shonagh McCrindle	334	N/A	N/A
Porter Creek North	Geraldine Van Bibber	562	Staci McIntosh	331	Francis van Kessel	250	N/A	N/A
Porter Creek South	Chad Sjodin	262	Ranj Pillai	309	Colette Acheson	84	N/A	N/A
Riverdale North	Cory Adams	280	Nils Clarke	469	Vanessa Thorsen	375	N/A	N/A
Riverdale South	Cynthia Lyslo	307	Tracy McPhee	415	Jason Cook	334	N/A	N/A
Takhini-Kopper King	Morgan Yuill	244	Raj Murugaiyan	198	Kate White	763	N/A	N/A
Vuntut Gwitchin	N/A	N/A	Pauline Frost	78	Annie Blake	78	N/A	N/A
Watson Lake	Patti McLeod	313	Amanda Brown	237	N/A	N/A	N/A	N/A
Whitehorse Centre	Eileen Melnychuk	249	Dan Curtis	312	Emily Tredger	498	N/A	N/A
Whitehorse West	Angela Drainville	376	Richard Mostyn	398	Ron Davis	229	N/A	N/A
Party List Seat Allocation	9		8		7		0	
Local Seats	8		8		3		0	
Remaining Party List Seats	1		0		4		0	
Overhang Seats	0		0		0		0	
Total Seats*	**9**		**8**		**7**		**0**	

* Party List Seat Allocation + Overhang Seats

Actual Winner under FPTP
Projected Winner of Party List Seat under MMP

2016 Election: Projected Results

ELECTORAL DISTRICT	YUKON PARTY		YUKON LIBERAL PARTY		YUKON NDP		YUKON GREEN PARTY		INDEPENDENT CANDIDATES	
Copperbelt North	Pat McInroy	529	Ted Adel	566	André Bourcier	161	N/A	N/A	N/A	N/A
Copperbelt South	Scott Kent	449	Jocelyn Curteanu	425	Lois Moorcroft	331	Phillipe Leblond	12	N/A	N/A
Klondike	Brad Whitelaw	365	Sandy Silver	687	Jay Farr	111	N/A	N/A	N/A	N/A
Kluane	Wade Istchenko	338	Mathieya Alatini	289	Sally Wright	153	N/A	N/A	N/A	N/A
Lake Laberge	Brad Cathers	558	Alan Young	342	Anne Tayler	261	Julie Anne Ames	38	N/A	N/A
Mayo-Tatchun	Cory Bellmore	166	Don Hutton	331	Jim Tredger	233	N/A	N/A	N/A	N/A
Mount Lorne-Southern Lakes	Rob Schneider	284	John Streicker	451	Kevin Barr	437	N/A	N/A	N/A	N/A
Mountainview	Darrell Pasloski	399	Jeanie Dendys	439	Shaunagh Stikeman	432	N/A	N/A	N/A	N/A
Pelly-Nisutlin	Stacey Hassard	280	Carl Sidney	152	Ken Hodgins	207	Frank De Jong	22	N/A	N/A
Porter Creek Centre	Michelle Kolla	379	Paolo Gallina	452	Pat Berrel	213	N/A	N/A	N/A	N/A
Porter Creek North	Geraldine Van Bibber	435	Eileen Melnychuk	372	Francis van Kessel	145	Mike Ivens	37	N/A	N/A
Porter Creek South	Mike Nixon	285	Ranj Pillai	337	Shirley Chua-Tan	102	N/A	N/A	N/A	N/A
Riverdale North	Mark Beese	258	Nils Clarke	486	Rod Snow	337	Kristina Calhoun	36	N/A	N/A
Riverdale South	Danny Macdonald	323	Tracy McPhee	421	Jan Stick	384	N/A	N/A	N/A	N/A
Takhini-Kopper King	Vanessa Innes	229	Jeane Lassen	478	Kate White	605	N/A	N/A	N/A	N/A
Vuntut Gwitchin	Darius Elias	70	Pauline Frost	77	Skeeter Wright	3	N/A	N/A	N/A	N/A
Watson Lake	Patti McLeod	299	Ernie Jamieson	212	Erin Labonte	219	N/A	N/A	Victor Kisoun	38
Whitehorse Centre	Doug Graham	193	Tamara Goeppel	432	Liz Hanson	487	N/A	N/A	N/A	N/A
Whitehorse West	Elaine Taylor	433	Richard Mostyn	455	Stu Clark	106	N/A	N/A	N/A	N/A
Party List Seat Allocation	8		10		6		0		0	
Local Seats	6		11		2		0		0	
Remaining Party List Seats	2		0		4		0		0	
Overhang Seats	0		1		0		0		0	
Total Seats*	**8**		**11**		**6**		**0**		**0**	

* Party List Seat Allocation + Overhang Seats

Actual Winner under FPTP
Projected Winner of Party List Seat under MMP

2011 Election: Projected Results

ELECTORAL DISTRICT	YUKON PARTY		YUKON LIBERAL PARTY		YUKON NDP		YUKON FIRST NATIONS PARTY		YUKON GREEN PARTY		INDEPENDENT CANDIDATES	
Copperbelt North	Currie Dixon	520	Arthur Mitchell	407	Skeeter Miller-Wright	159	N/A	N/A	N/A	N/A	N/A	N/A
Copperbelt South	Valerie Boxall	394	Colleen Wirth	184	Lois Moorcroft	397	N/A	N/A	N/A	N/A	N/A	N/A
Klondike	Steve Nordick	404	Sandy Silver	530	Jorn Meier	147	N/A	N/A	N/A	N/A	N/A	N/A
Kluane	Wade Istchenko	287	Timothy Cant	219	Eric Stinson	220	Gerald Dickson	32	N/A	N/A	N/A	N/A
Lake Laberge	Brad Cathers	528	Mike Simon	159	Frank Turner	330	N/A	N/A	N/A	N/A	N/A	N/A
Mayo-Tatchun	Elaine Wyatt	214	Eric Fairclough	181	Jim Tredger	282	N/A	N/A	N/A	N/A	N/A	N/A
Mount Lorne-Southern Lakes	Deborah Fulmer	395	Ted Adel	111	Kevin Barr	488	Stanley James	49	N/A	N/A	N/A	N/A
Mountainview	Darrell Pasloski	480	Dave Sloan	216	Stephen Dunbar-Edge	376	N/A	N/A	N/A	N/A	N/A	N/A
Pelly-Nisutlin	Stacey Hassard	275	Carl Sidney	73	Carol Geddes	178	N/A	N/A	N/A	N/A	Elvis Presley	31
Porter Creek Centre	David Laxton	298	Kerry Huff	245	Jean-François Des Lauriers	230	N/A	N/A	N/A	N/A	N/A	N/A
Porter Creek North	Doug Graham	400	Dawn Beauchemin	82	Mike Tribes	253	N/A	N/A	Mike Ivens	69	N/A	N/A
Porter Creek South	Mike Nixon	257	Don Inverarity	243	John Carney	99	N/A	N/A	N/A	N/A	N/A	N/A
Riverdale North	Scott Kent	366	Christie Richardson	289	Peter Lesniak	296	N/A	N/A	Kristina Calhoun	35	N/A	N/A
Riverdale South	Glenn Hart	314	Dan Curtis	274	Jan Stick	380	N/A	N/A	N/A	N/A	N/A	N/A
Takhini-Kopper King	Samson Hartland	316	Cherish Clarke	224	Kate White	458	N/A	N/A	N/A	N/A	N/A	N/A
Vuntut Gwitchin	Garry Njootli	52	Darius Elias	93	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Watson Lake	Patti McLeod	276	Thomas Slager	165	Liard McMillan	242	N/A	N/A	N/A	N/A	Patricia Gilhooly	48
Whitehorse Centre	Marian Horne	202	Patrick Singh	104	Elizabeth (Liz) Hanson	525	N/A	N/A	N/A	N/A	N/A	N/A
Whitehorse West	Elaine Taylor	422	Cully Robinson	209	Louis R. Gagnon	94	N/A	N/A	N/A	N/A	N/A	N/A
Party List Seat Allocation	10		6		8		0		0		0	
Local Seats	11		2		6		0		0		0	
Remaining Party List Seats	0		4		2		0		0		0	
Overhang Seats	1		0		0		0		0		0	
Total Seats*	**11**		**6**		**8**		**0**		**0**		**0**	

* Party List Seat Allocation + Overhang Seats

Actual Winner under FPTP
Projected Winner of Party List Seat under MMP