## A primer on voting systems

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- @cyclingzealot
- @FairVoteCanada
- #voterequality
- #fairvote
- #ERRE
- #EngagedInER



## Why proportional representation?

It's the critical issue....



.... to the urgent ones we care about.

## Fair Voting

- 1) Why FPTP doesn't serve voters
- 2) History of the mouvement
- 3) Voting system concepts
- 4) Different voting systems
- 5) Where to go from here?

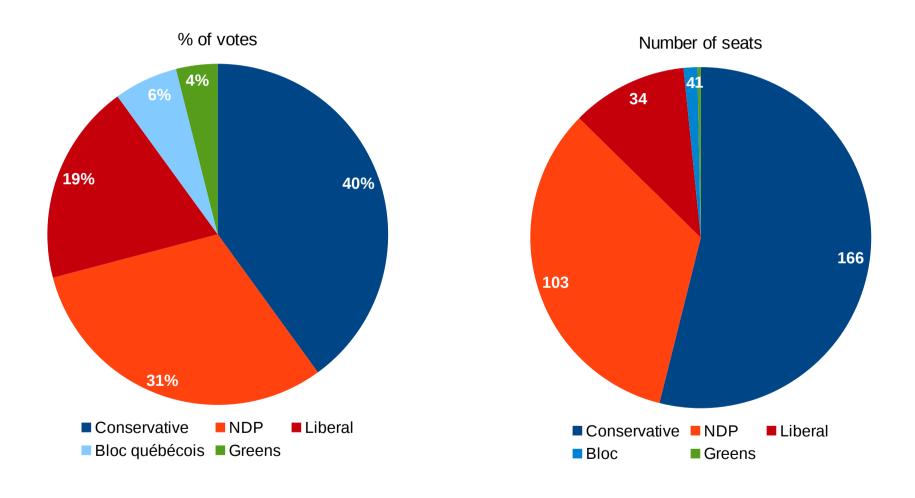
### FPTP doesn't serve voters

- Phony majorties
  - Ontario (since 1937)
  - Canada (since 1984)
  - Quebec (since 1985)
- How can institutions be accountable?

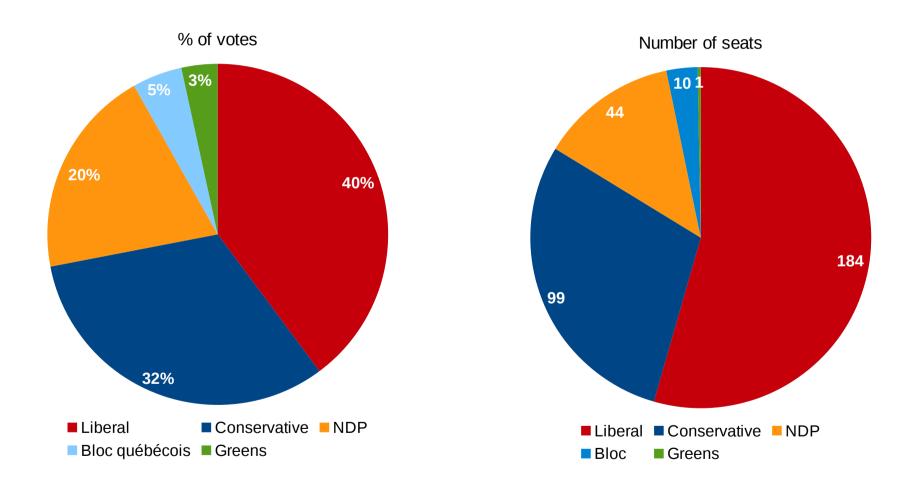
## Wrong winner in FPTP

- Quebec 1966
- New-Brunswick, 1974
- Canada, 1979
- British-Columbia, 1996
- Québec 1998

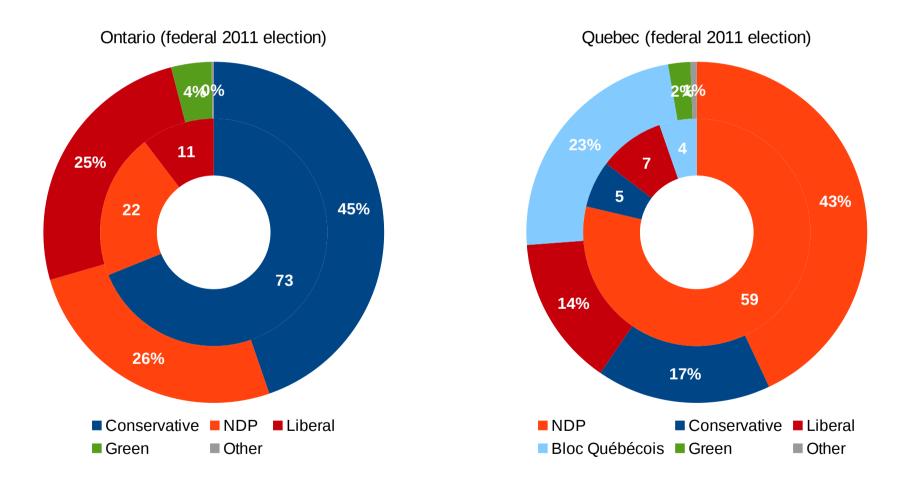
## Distortion of representation (2011)



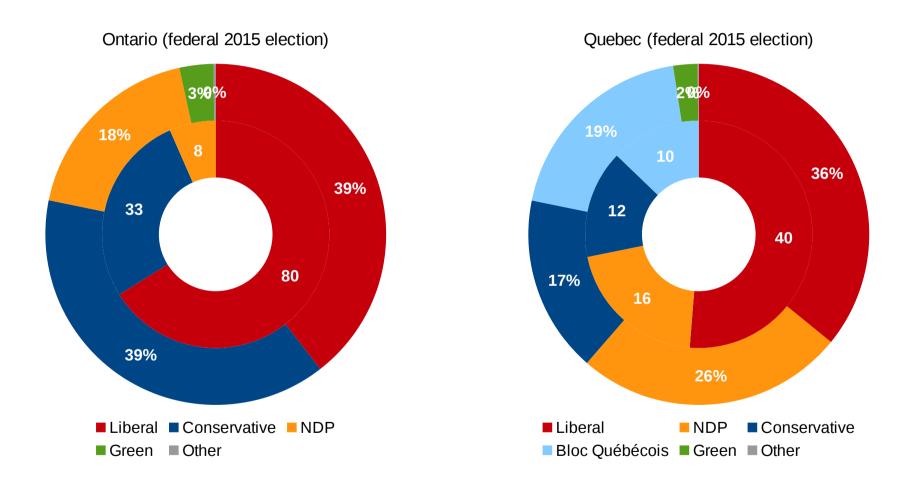
## Distortion of representation (2015)



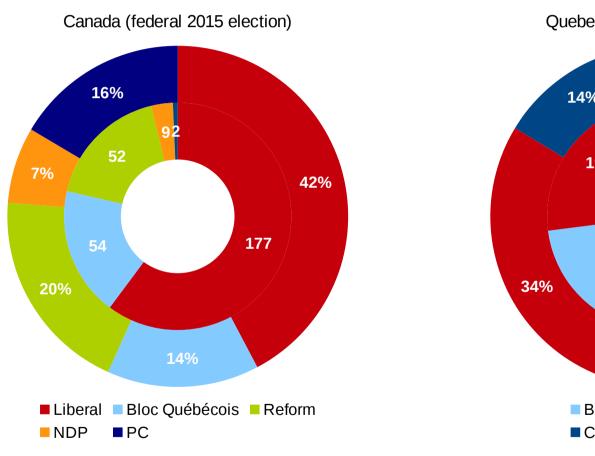
## Distortion of representation (2011)

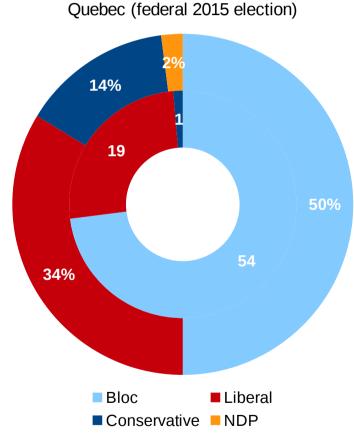


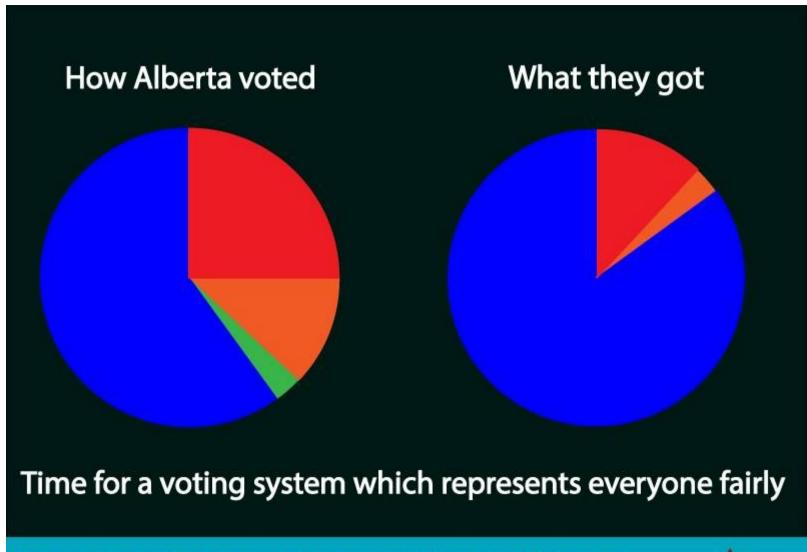
## Distortion of representation (2015)



## Distortion of representation (1993)







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Make Your Vote Count! www.fairvote.ca

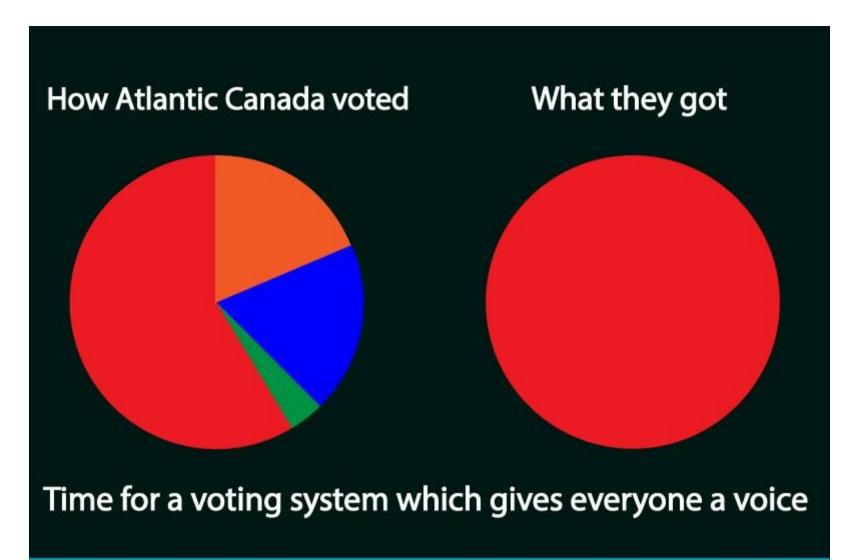


# A diverse city meets an 800 year old voting system **How Toronto voted** What Toronto got

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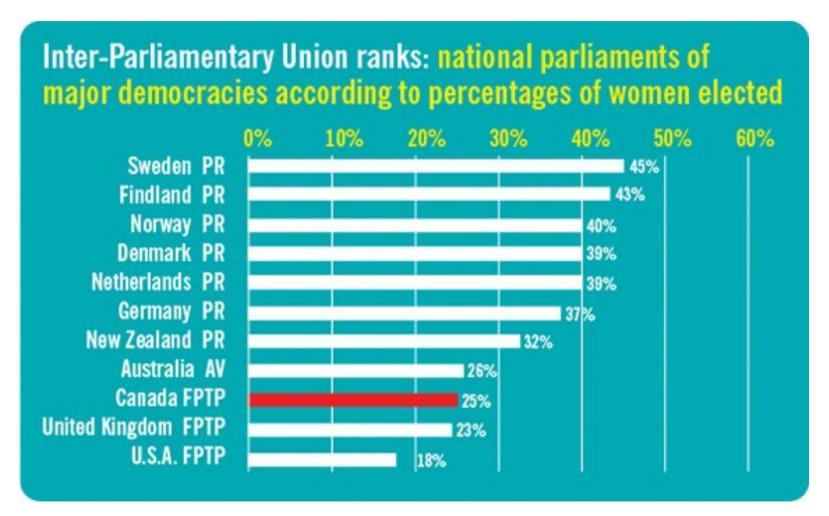


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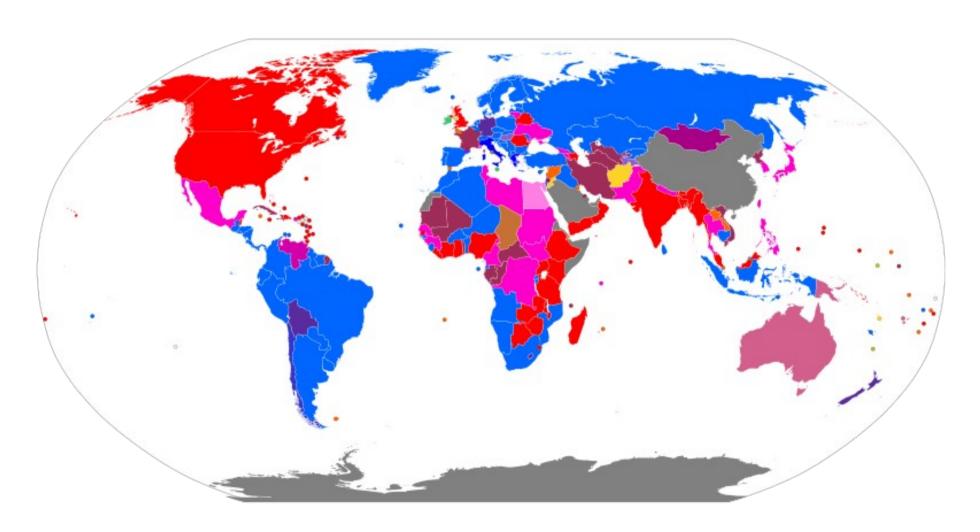


## Proportion of women elected in legislatures of OECD\* countries



<sup>\*</sup>Organization for Economic Cooperation and Development

### Who uses FPTP?



Legend: http://en.wikipedia.org/wiki/File:Electoral\_systems\_map.svg

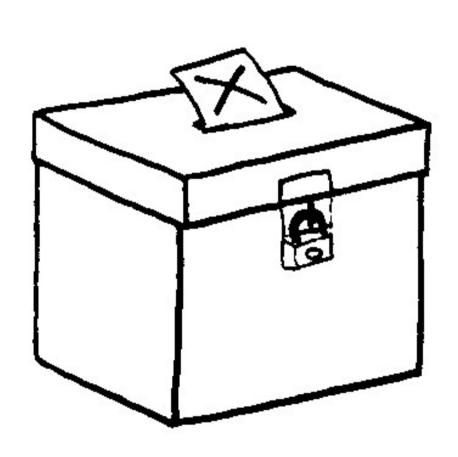
## History of voting reform in the world

- 1924-1957 : Alberta uses STV (Edmonton & Calgary) & AV (rest of province) to elect MLAs
- 1993 : New Zealand switches to Mixed Member Proportional (MMP) with 54% support
- 2011 : UK votes against AV (68% against)
- 2011 : New Zealand votes to keep MMP with 58% support

## Recent history of voting reform in Canada

- 1984 : Electoral Representation Commission (Québec)
- 1997 : Federal Majority government with lowest support
- 2001 : Fair Vote Canada is founded
- 2002 : Quebec's Estates-General on the Reform of Democratic Institutions
- 2004 : Quebec government study (Charest)
- 2004 : Law Commission of Canada report on ER
- 2005 : NB Commission on Legislative Democracy
- 2005 : PEI Plebiscite on voting reform
- 2005 : BC Citizens Assembly recommends Single Transferable Vote
- 2005 : In a referendum, BC-STV receives 58% support
- 2006 : Quebec Citizens Committee Report
- 2007: Ontario Citizens Assembly recommends Mixed Member proportional
- 2007 : Quebec's Chief Electoral Officer's Report
- 2009 : Second referendum on BC-STV

## Voting systems



• The ballot

Seats per electoral districts

 The algorithm (votes → seats)

## Single member plurality (First past the post)

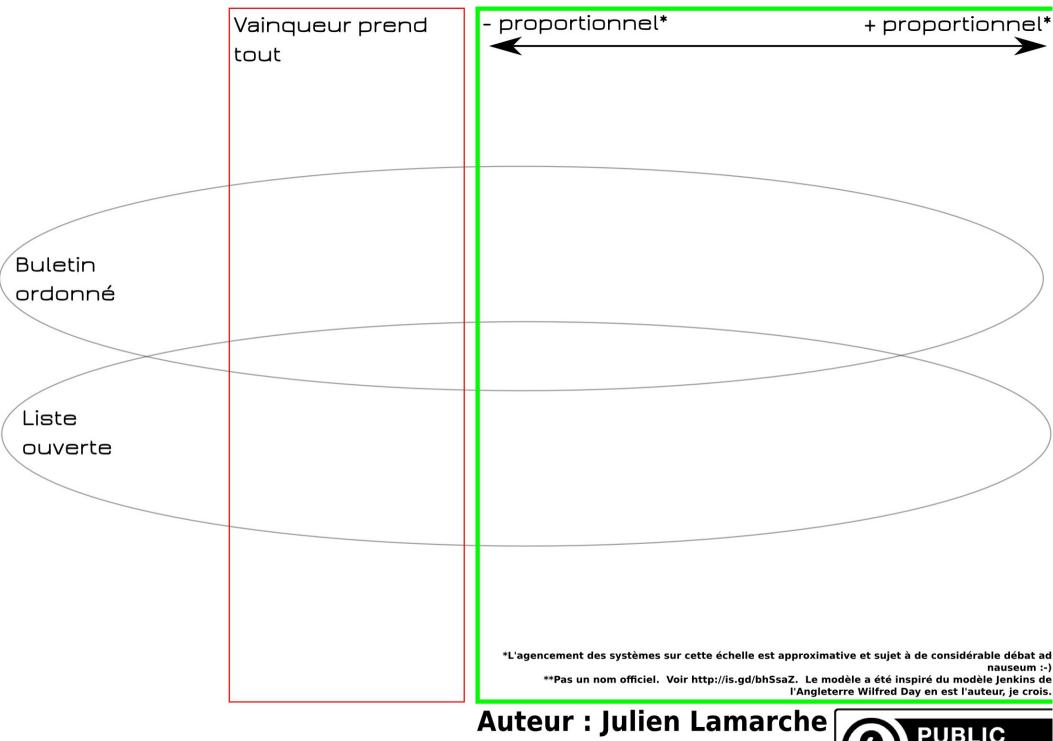
The ballot: One X per vote

Seats per electoral district: 308 ridings of one seat

The algorithm: The seat is given to the

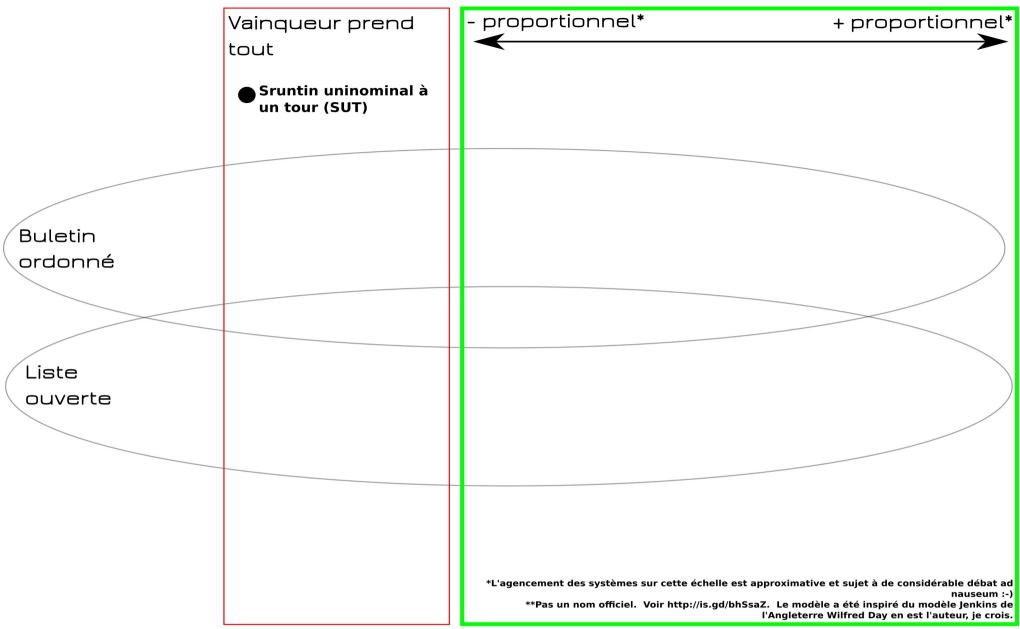
candidate with at least 1 more

vote than everyone else.



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O PUBLIC DOMAIN

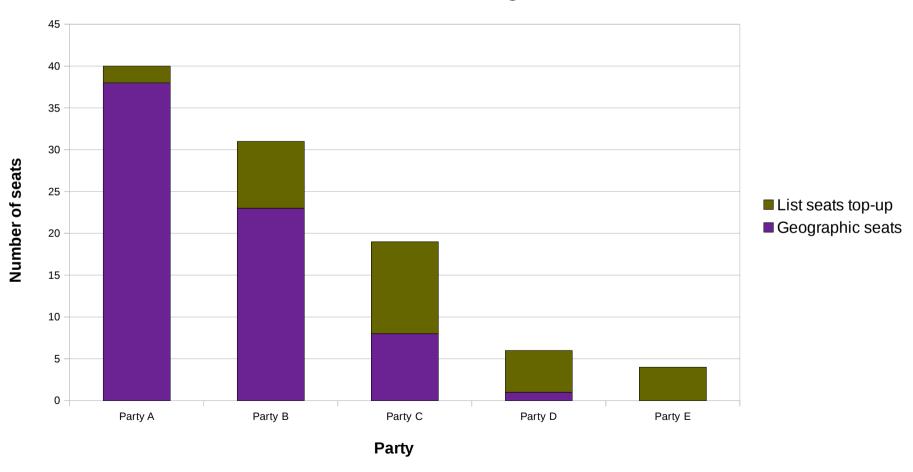
See http://www.fairvotecanadancr.ca/?q=node/105 pour des mises à jour

### What is an electoral district?

- A bounded geographical area who's voters are represented by one *or more* legislators
- Canada: 308 electoral districts represented by 308 MPs
- **Australian senate** : 6 staes, each represented by 12 elected senators
- **Norway legislature**: 19 counties, each represented by 4 to 17 legislators

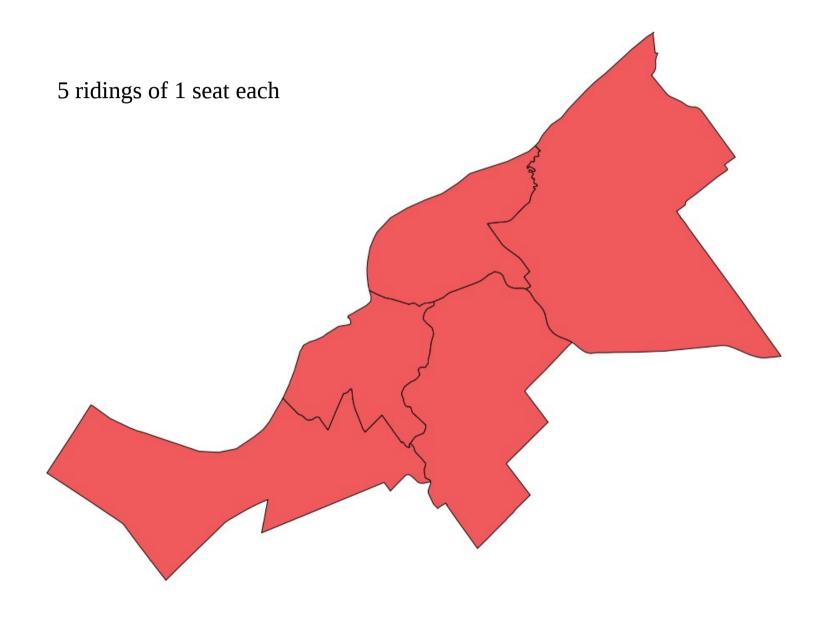
### List seats

#### **Fictional 100 seat legislature**

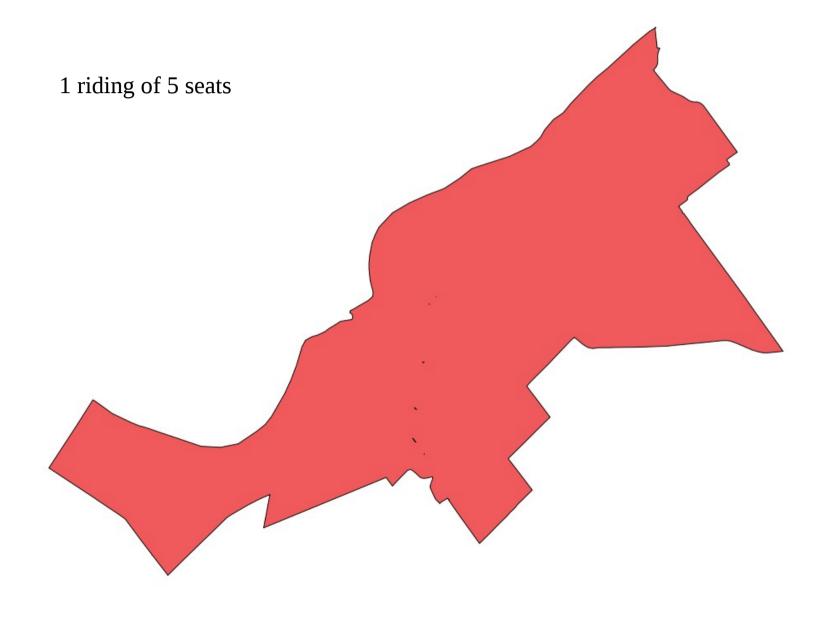


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## Clusters



## Clusters



## Not a voting system

- Ranked ballot
- Preferential ballot

## Clarification

- All candidates face voters
- All systems keep local or near-local representation

## Mixed Member Proportional

**OFFICIAL** MARK

[Consecutive Number]

#### YOU HAVE 2 VOTES

Explanation This vote decides the share of seats which each of the parties listed below will have in Parliament. Vote by putting a tick in the circle immediately after the party you choose.

PARTY VOTE

Explanation This vote decides the candidate who will be elected Member of Parliament for the [/nsert name] ELECTORATE. Vote by putting a tick in the circle immediately before the candidate you choose.

> ACT NEW ZEALAND DENIS, Alistair

NATIONAL ELLIS, John

ALLIANCE

NZ FIRST

UNITED NZ

GREIG, Tony

ILLOTT, Anne

MARTIN, Hamish

NEMETH, Elizabeth

PEOPLES, Wendy

QUENTIN, Oliver

RAWIRI, Whare

REPUBLICAN PARTY

TE TAWHARAU

ROSS, Arthur

RUSCOE, Noel

DEMOCRATS SMITH, Eugene INDEPENDENT TULIP, Belinda

ADVANCE NZ

McGILLICUDDY SERIOUS

CHRISTIAN DEMOCRATS OSBERT, Sebastian

Vote for only one party Vote for only one candidate ALLEN, Fred LABOUR LABOUR BARKER, Mary

NATIONAL ALLIANCE

ACT NEW ZEALAND

THE GREENS. THE GREEN PART OF AOTEAROANEW ZEALAND NZ FIRST

ROC

**Wosert** 

logo (if

to the

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the name

party

CHRISTIAN DEMOCRATS

UNITED NZ

CHRISTIAN HERITAGE PARTY OF NEW ZEALAND

McGILLICUDDY SERIOUS

TE TAWHARAU REPUBLICAN PARTY

DEMOCRATS

ADVANCE NZ

CONSERVATIVE

SOCIAL DEMOCRATS

SUPERANNUITANTS PARTY

Final Directions

1. If you spoil this ballot paper, return it to the officer who issued it and apply for a new ballot paper. 2. After voting, fold this ballot paper so that its contents cannot be seen and place it in the ballot box.

3. You must not take this ballot paper out of the polling booth.

**ELECTORATE VOTE** 

THE GREEKS, THE DRIGHT PARTY OF ACTEARDANEW JEALAND

CHRISTIAN HERITAGE PARTY OF NEW ZEALAND

## Mixed Member Proportional: The ballot

#### • Two votes:

- One for local candidate
- One for party

perty Jogo gr registered) to the right of the name of the candidate.)

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## Mixed Member Proportional The algorithm

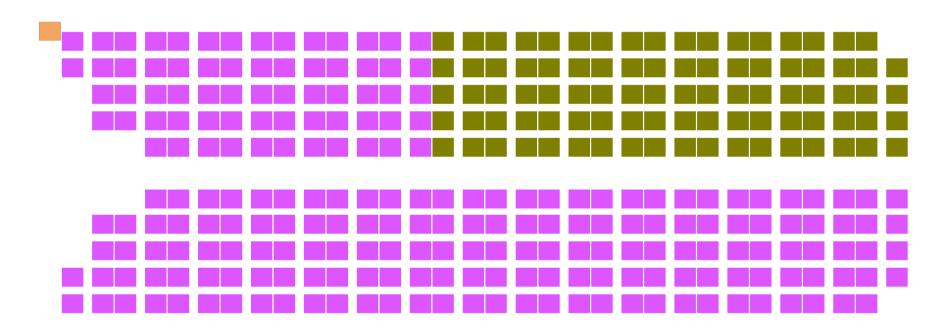
- Winner of geographic seats are determined first
- List seats compensate for lack of proportionality

## MMP: The algorithm

	Fictional legislature of <u>100</u> seats		
	Geographic seats		List seats
Party A	38	40%	2
Party B	23	31%	8
Party C	8	19%	11
Party D	1	6%	5
Party E	0	4%	4
Total	70	100%	30

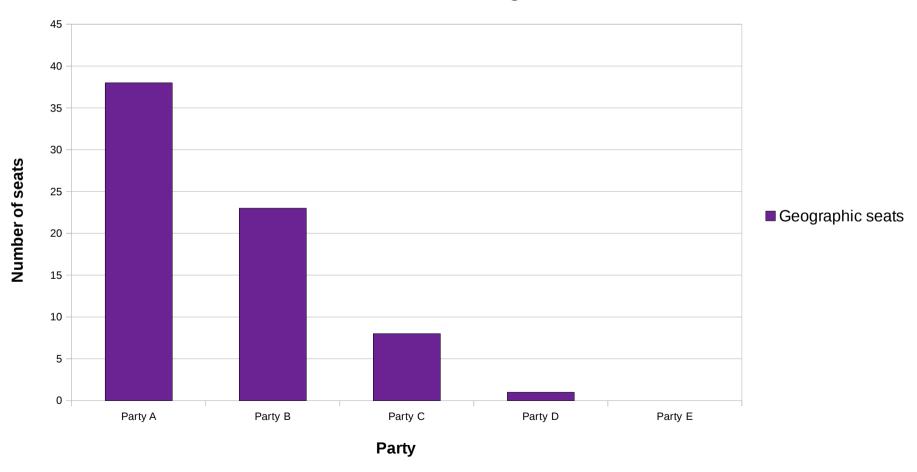
## Mixed Member Proportional The seats & riding

- One seat per geographic ridings;
- List seats for ridings that span the entirety or parts of the jurisdiction;



## MMP: The algorithm

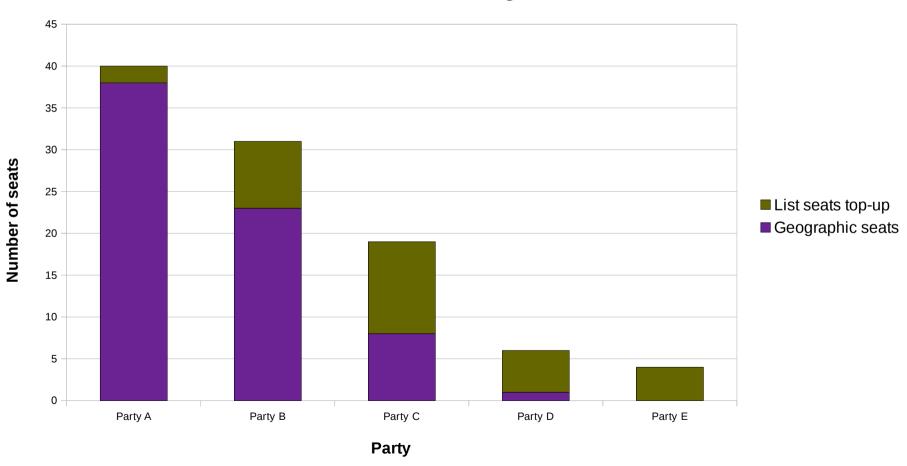
#### Fictional 100 seat legislature



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## MMP: The algorithm

#### Fictional 100 seat legislature

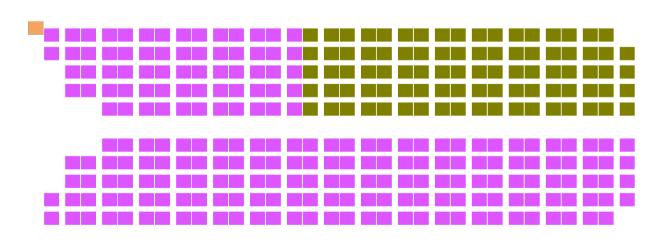


### List seats

- Closed list (Ontario MMP 2007)
- Open lists

(Voting Counts: Electoral Reform for Canada, Law Commission of Canada, 2004, p. 106)

• **Best loosers** (Germany)



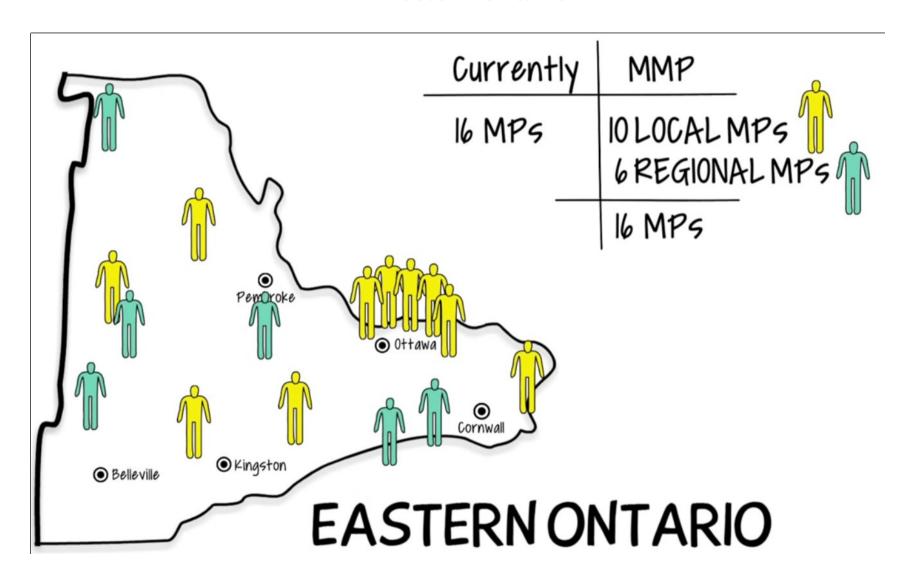
### Law Commission 2004 MMP

#### Ballot

2015 FEDERAL ELECTION	N	Riding: OTTAW	A SOUTH   Region	n: EASTERN ONTARIO
You have two votes:  Paper Ballot				
1 Please mark an "X" beside one candidate for LOCAL MEMBER OF PARLIAMENT				
Elie Salibi Conservative	David McGuinty Liberal	James McLaren NDP	Mick Kitor Green	Romeo Bellai Independent
Please mark an "X" beside EITHER one party OR one candidate for REGIONAL MEMBER OF PARLIAMENT.  A vote for a candidate counts as a vote for that candidate's party. This vote helps elect regional MPs, topping-up the numbers of MPs from your region so the total is proportional to the votes for each party.  Conservative  Liberal  NOP  Green				
John Baird		Paul Dewar	Jen Hunter	
Conservative	Mauni Bélanger Liberal	NOP	Green	
Scott Reid Conservative	David McGuinty Liberal	Marlene Rivier NDP	Jean-Luc Cooke Green	
Pierre Lemieux Conservative	Ted Hsu Liberal	Daniel Beals NOP	Mary Stade Green	
Pierre Poilievre Conservative	Anita Vandenbeld Liberal	Elaine MacDonald NDP	Eric Walton Green	
Condon O'Connor Conservative	Julic Bourgeois Liberal	Trever Haché NOP	Caroline Rioux Green	
Gord Brown Conservative	Karen McCrimmon Liberal	Erin Peters NOP	John Hogg Green	
Daryl Kramp Conservative	Peter Tinsley Liberal	Michael McMahon NDP	Sylvie Lemieux Green	
Royal Galipeau Conservative	David Bertschi Liberal	Bonnie Jean-Louis NOP	John Baranyi Green	
Cheryl Gallant Conservative	Marjory Loveys Liberal	James McLaren NOP	Mick Kitor Green	
Guy Lauzon Conservative	Ryan Keon	Martine Cénatus	Roseanne Van Schie	
Alicia Gordon Conservative	David Remington Liberal	Doug Smyth		
Elie Salibi Conservative	Bernadette Clement Liberal	Mary Rita Holland NDP		

### Law Commission 2004 MMP

Eastern Ontario



### Mixed Member Proportional

The ballot:

•One vote for a party

•One vote for a candidate

Seats per electoral district:

•50%-70% are local electoral district

Remainder are list seats

The algorithm:

•Geographic seats first determined

•List seats compensate for lack of proportionality

### Dual Member Proportional

## The ballot paper would look something like this...

Parties may nominate up to 2 candidates per district.

Independent candidates may also run.

When a party wins 1 of the 2 seats for this district, only their **first-listed candidate** is selected.

#### P.E.I. Election 2015

District G. Avonlea-White Sands

Vote by putting a single "X" in the circle beside the option you most support.





#### **CAT PARTY**

- 1. Maud Montgomery
- 2. Matthew Cuthbert

#### **DOG PARTY**

- 1. Charlie Sloane
- 2. Anne Shirley

#### LIZARD PARTY

- 1. Marilla Cuthbert
- 2. Gilbert Blythe

#### **RABBIT PARTY**

- 1. Peter Blewett
- 2. Diana Barry

#### John Blythe (Independent)



### Dual Member Proportional

The ballot:

•Single X for a pair of candidates. The X also counts as a party vote.

Seats per electoral district:

•2 seats per district

The algorithm:

- 1) First listed candidate with a plurality of votes is selected
- 2) Determine the number of compensatory seats per party
- 3) Candidates with the strongest relative support among their party are given the compensatory seats

## Single Transferable Vote

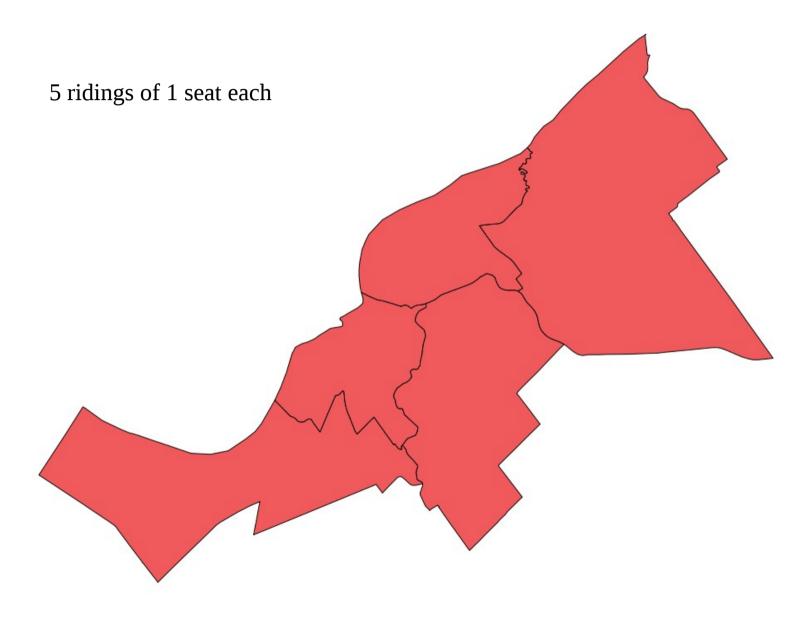
# Single Transferable Vote: The ballot

## Rank any number of options in your order of preference.

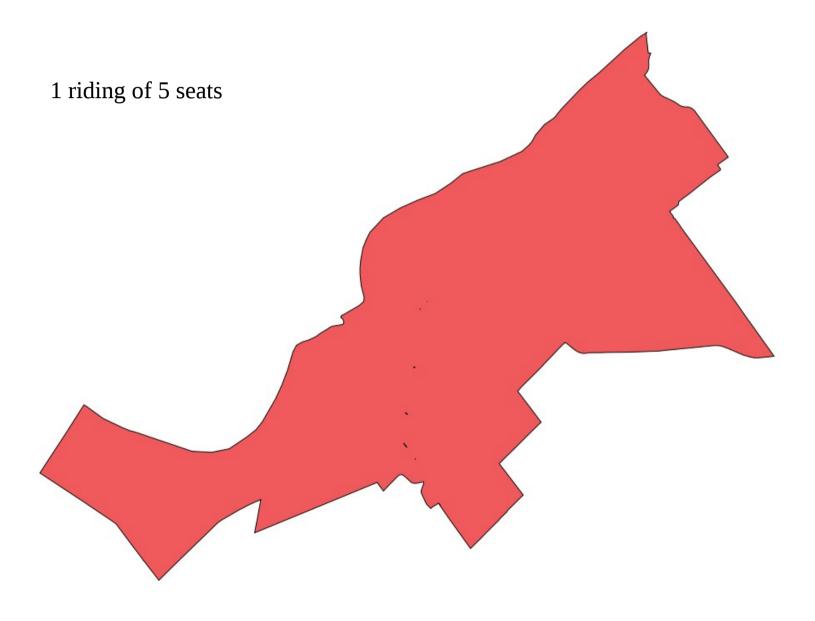
- Joe Smith
- **1** John Citizen
- **3** Jane Doe
- Fred Rubble
- 2 Mary Hill

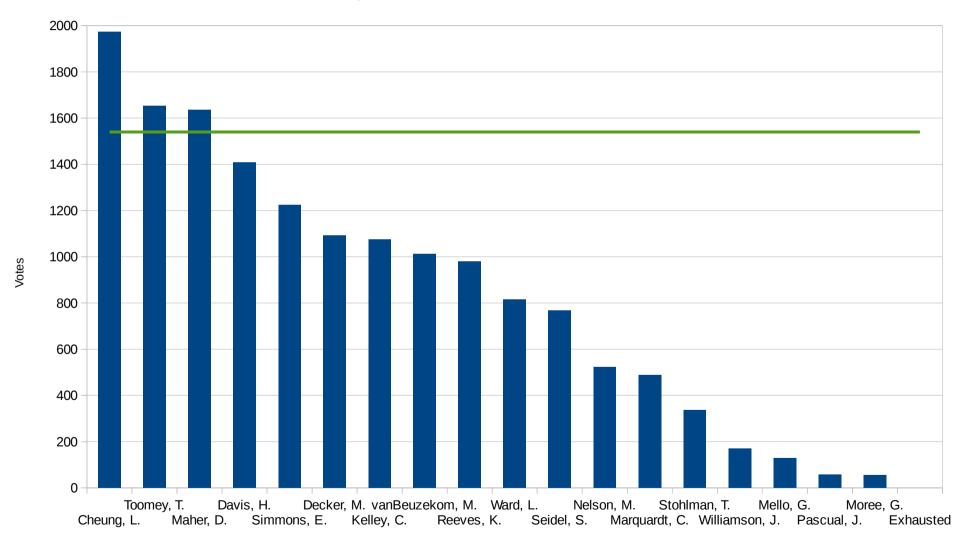
- Ranked vote
- No party list

# Single Tranferable Vote: The district & seats



# Single Tranferable Vote: The district & seats





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## Single Transferable Vote The threshold

Formula:

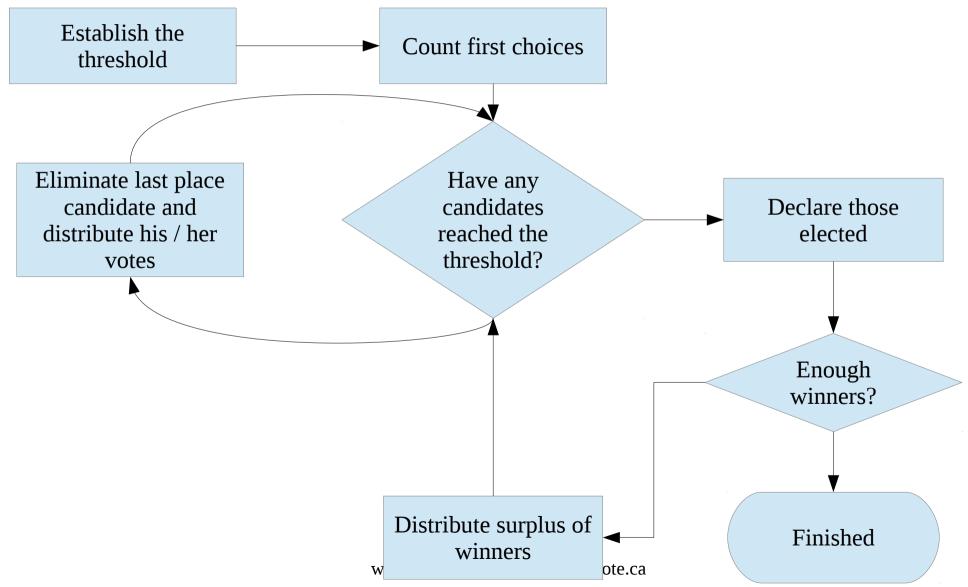
threshold= 
$$\left(\frac{\text{valid votes}}{\text{seats}+1}\right) + 1$$

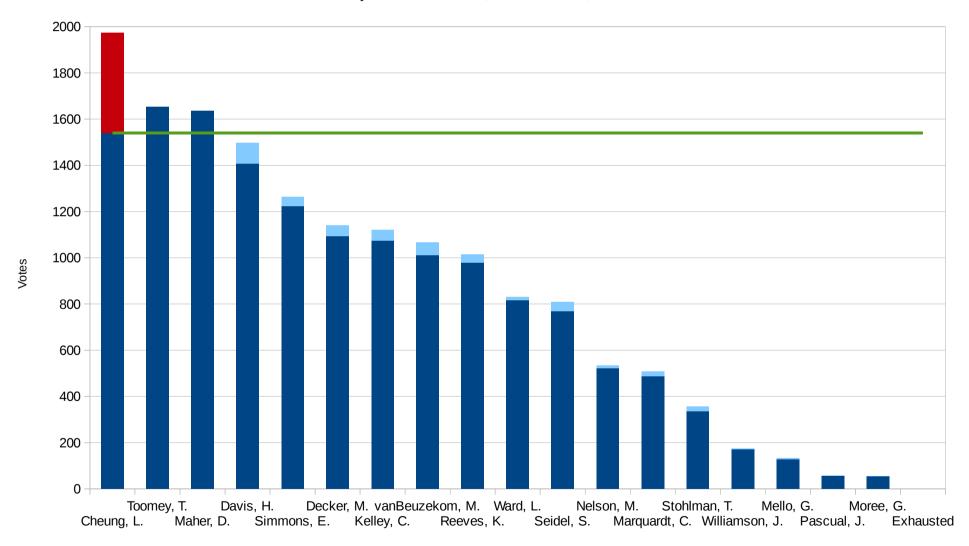
Example of 
$$50\% + 1 = \left(\frac{100\% \text{ of votes}}{1 \text{ seat} + 1}\right) + 1$$

Example of Cambridge Massachussetts:

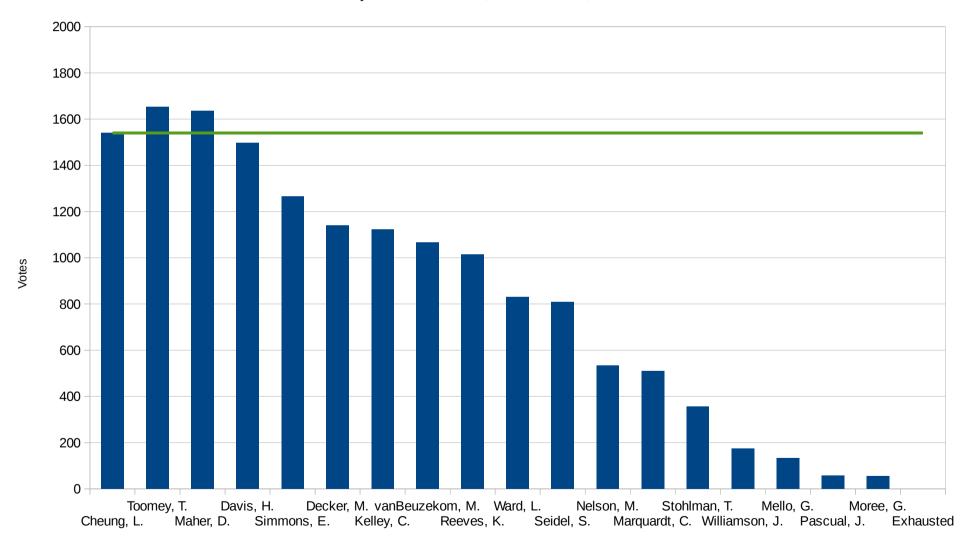
$$1540 = \left(\frac{15393 \text{ votes}}{9 \text{ seats} + 1}\right) + 1$$

## Single Transferable Vote The algorithm

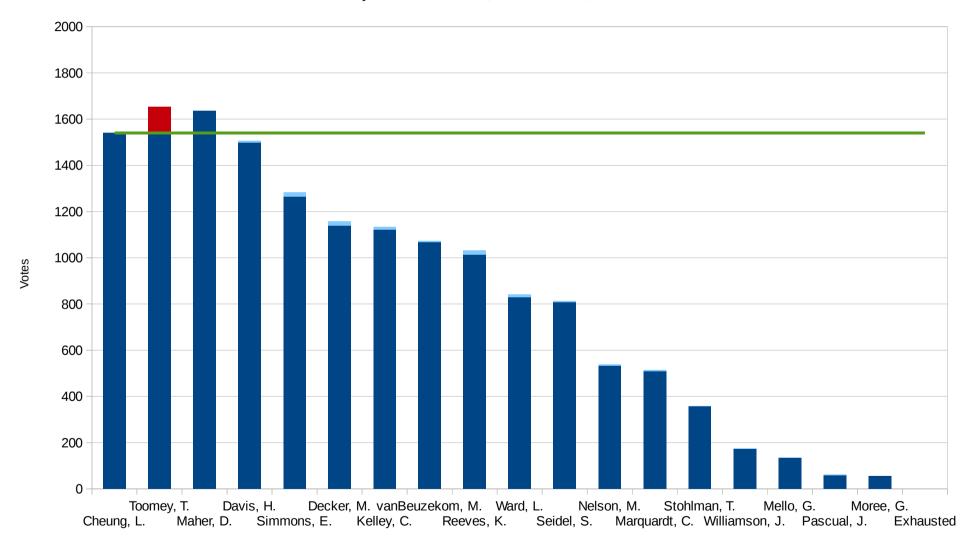




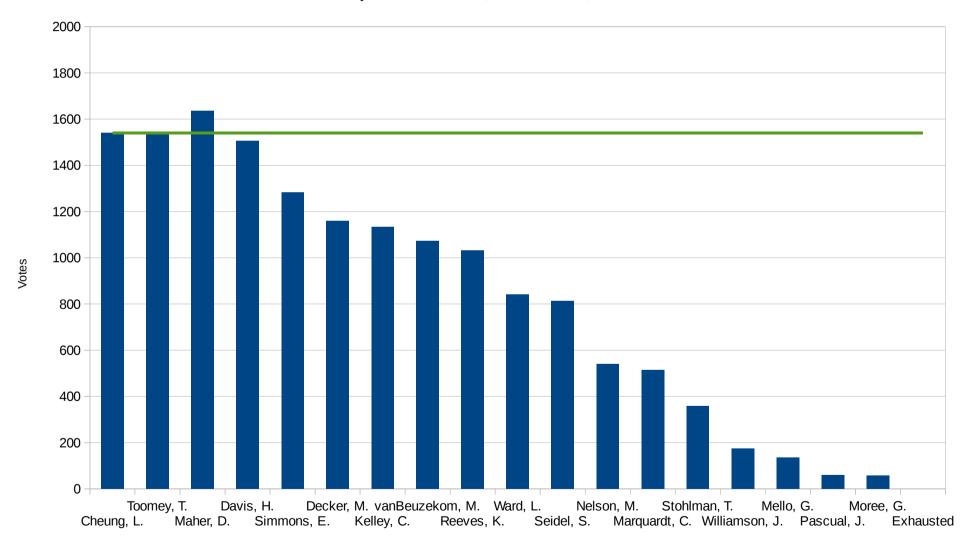
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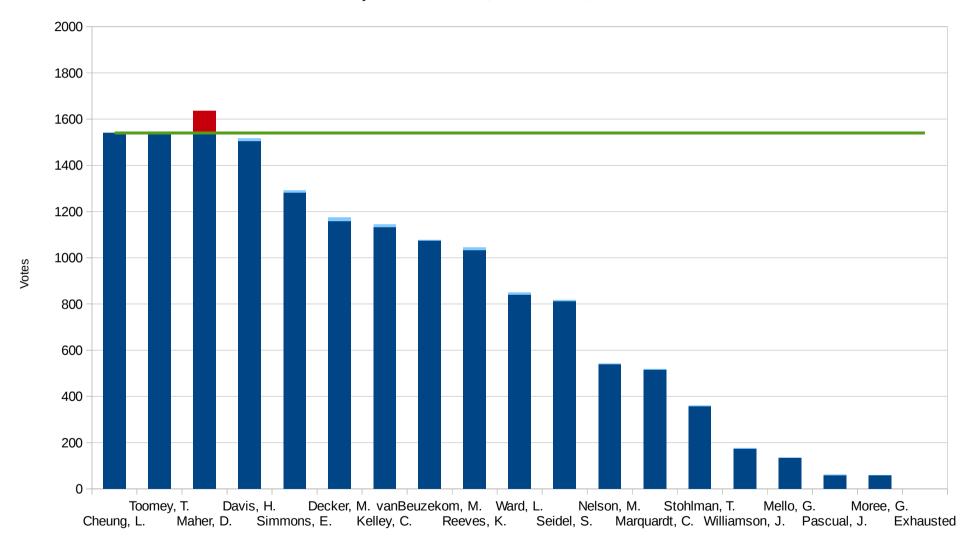
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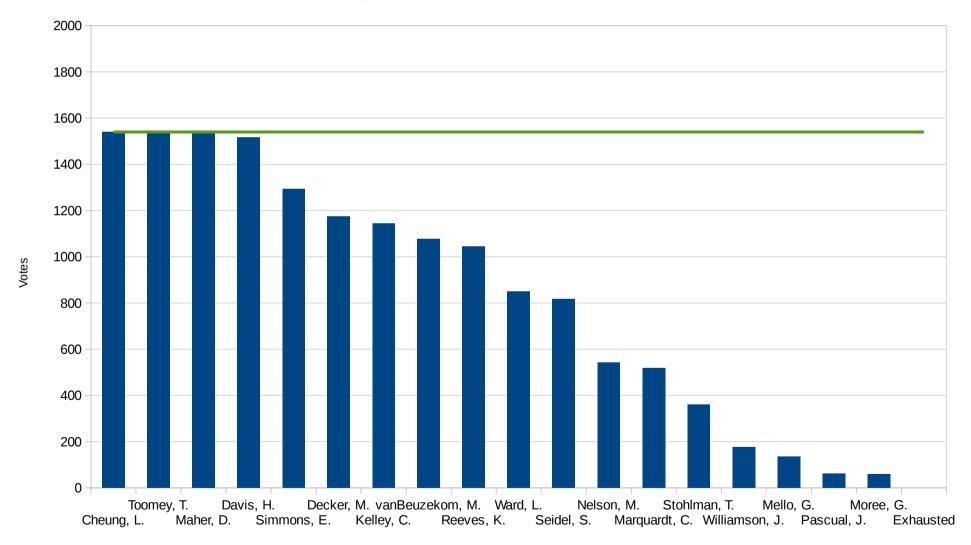
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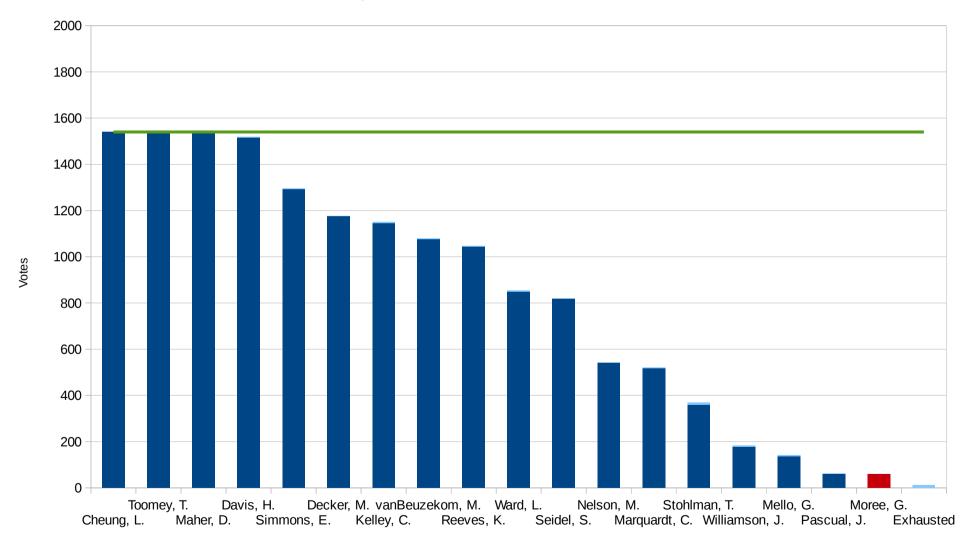
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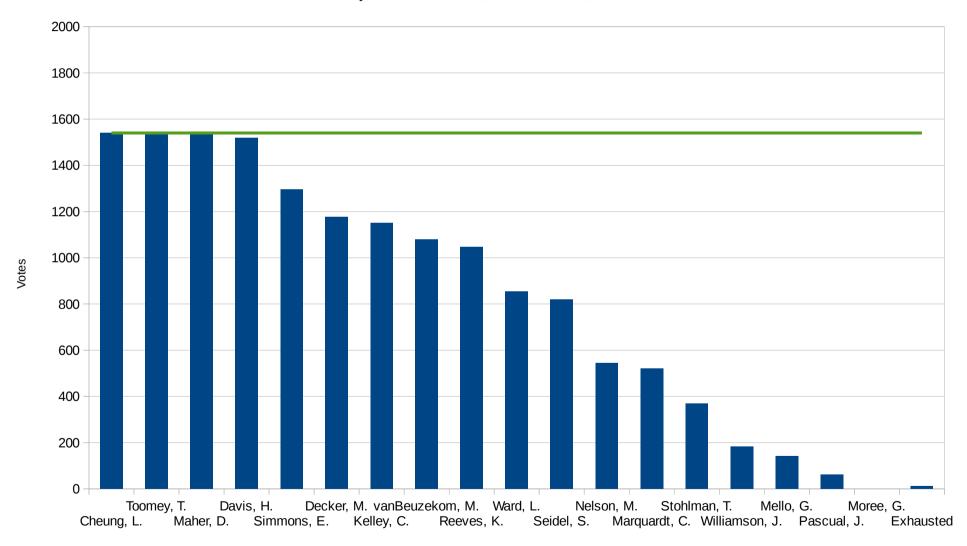
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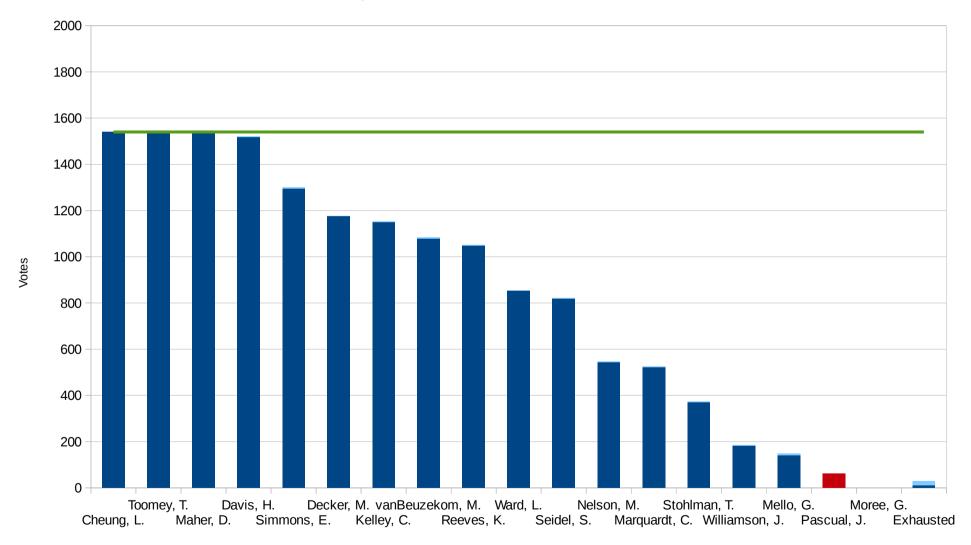
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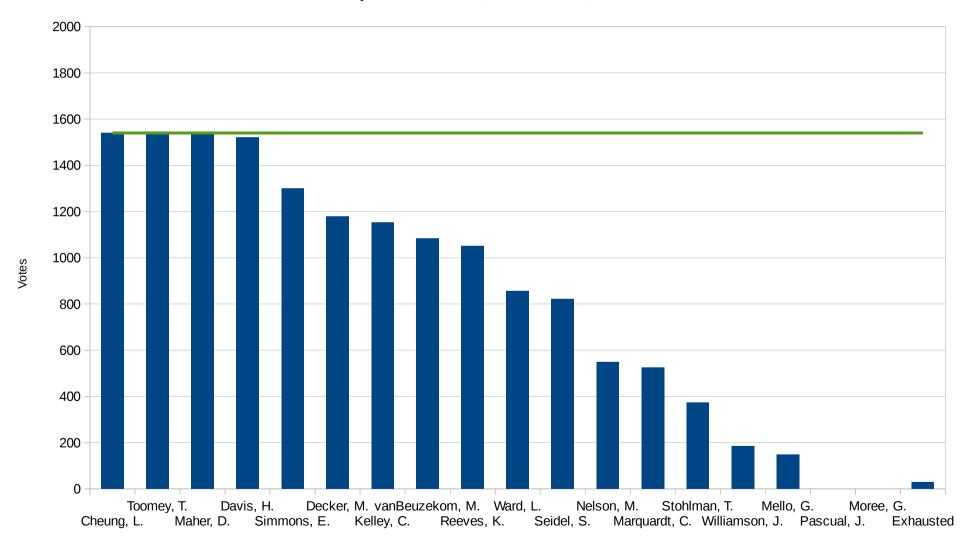
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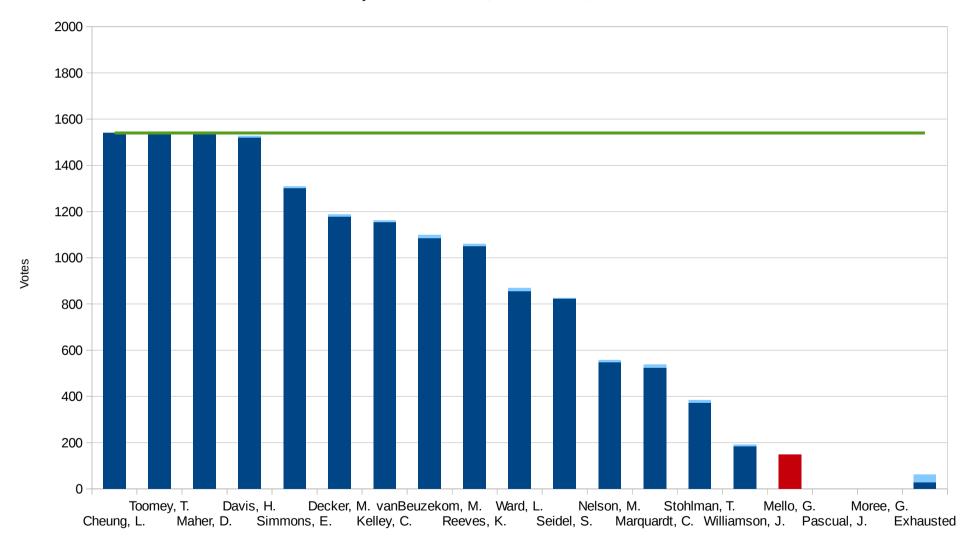
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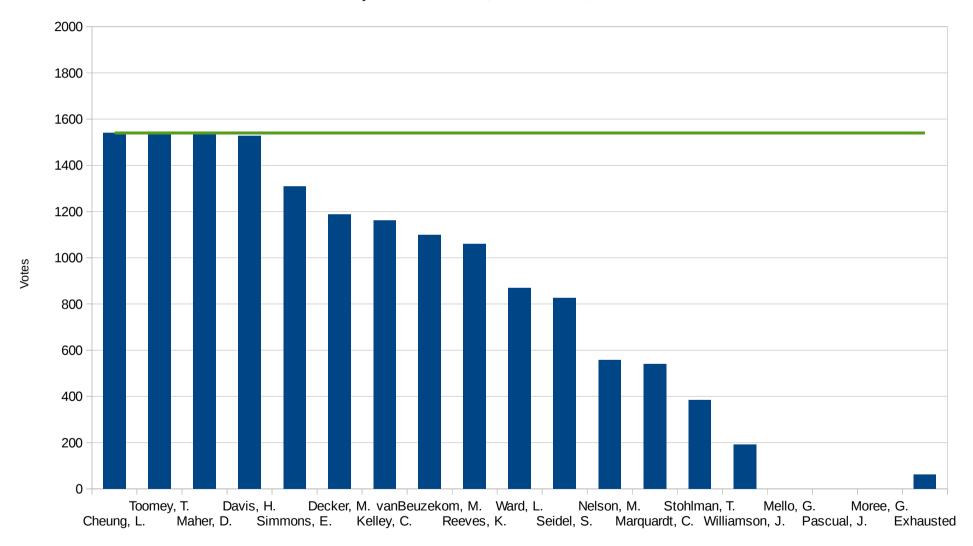
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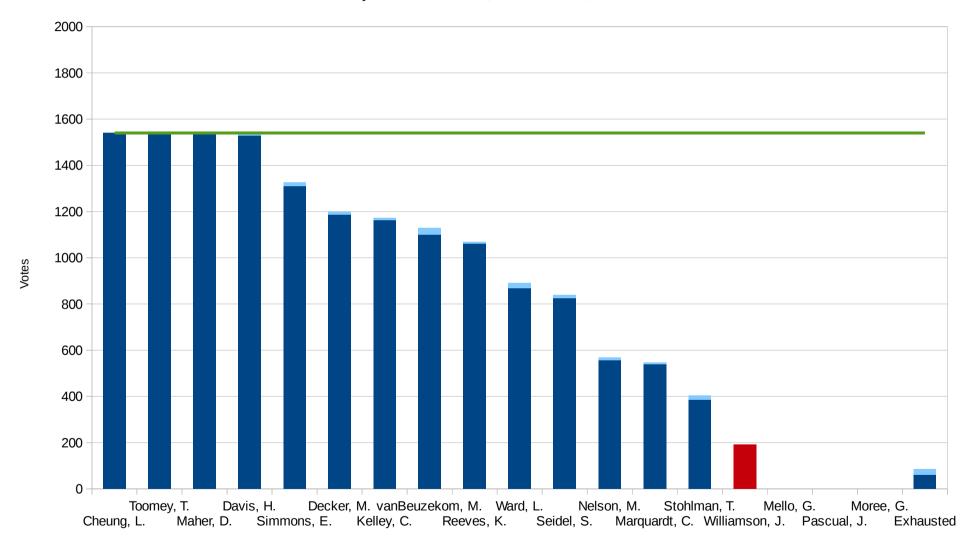
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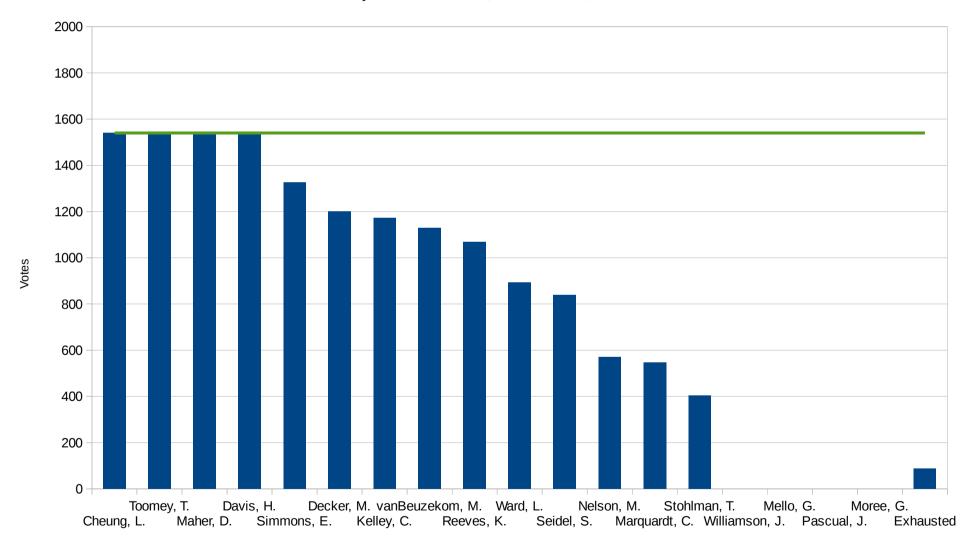
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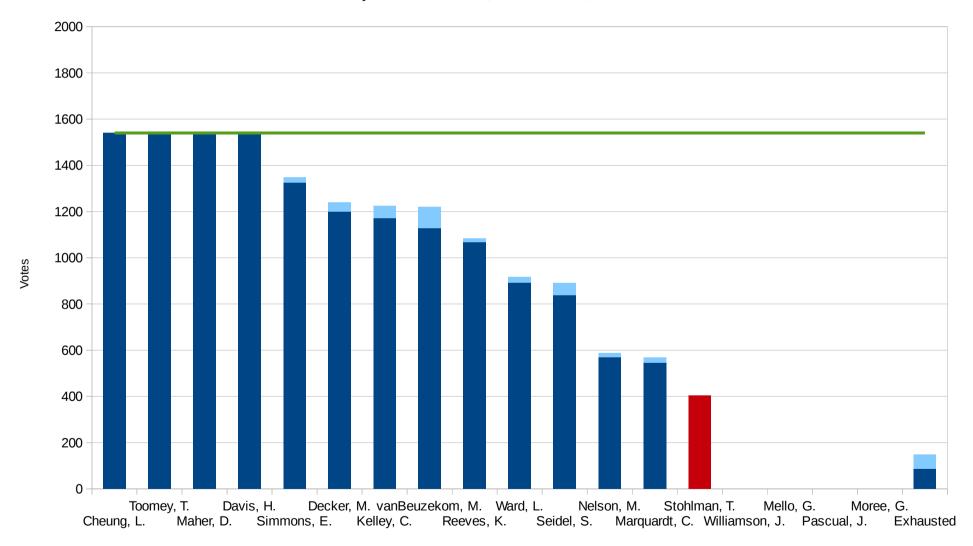
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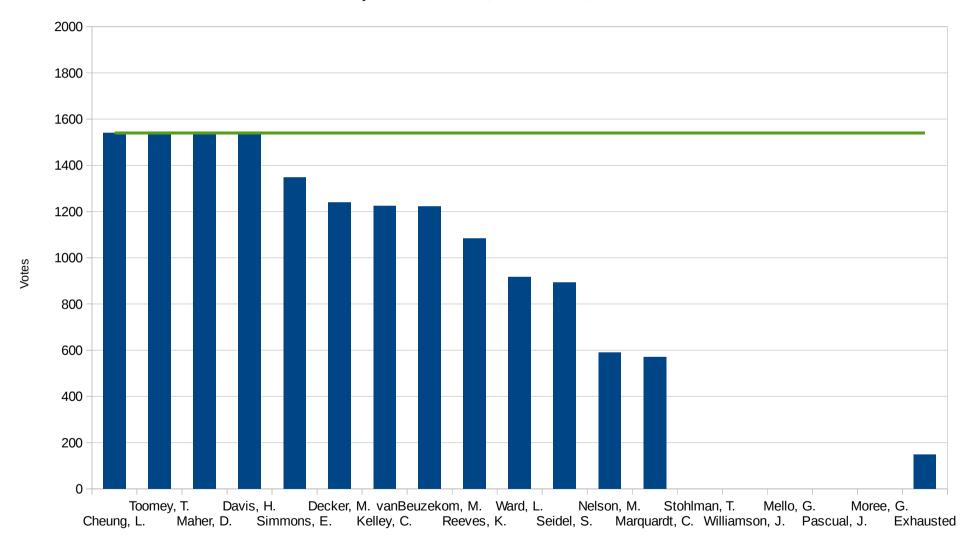
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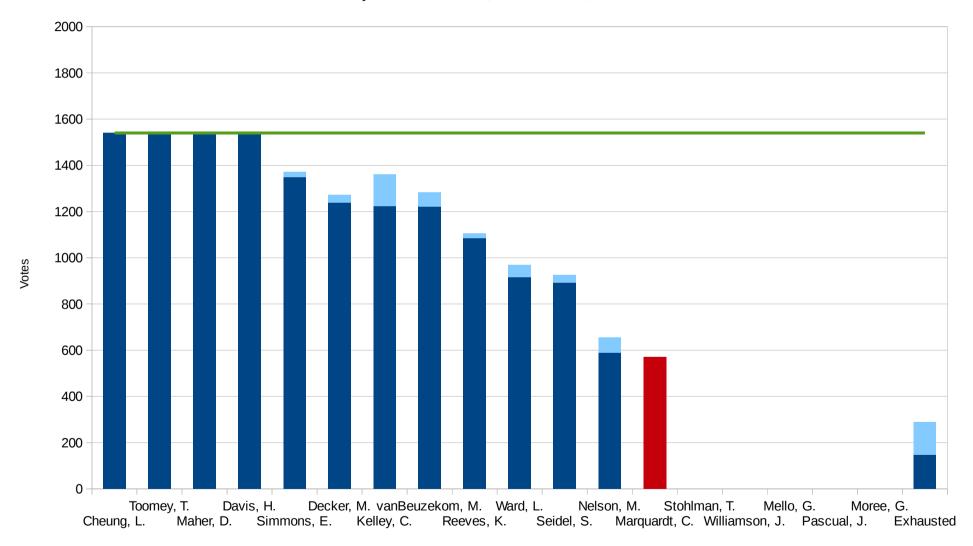
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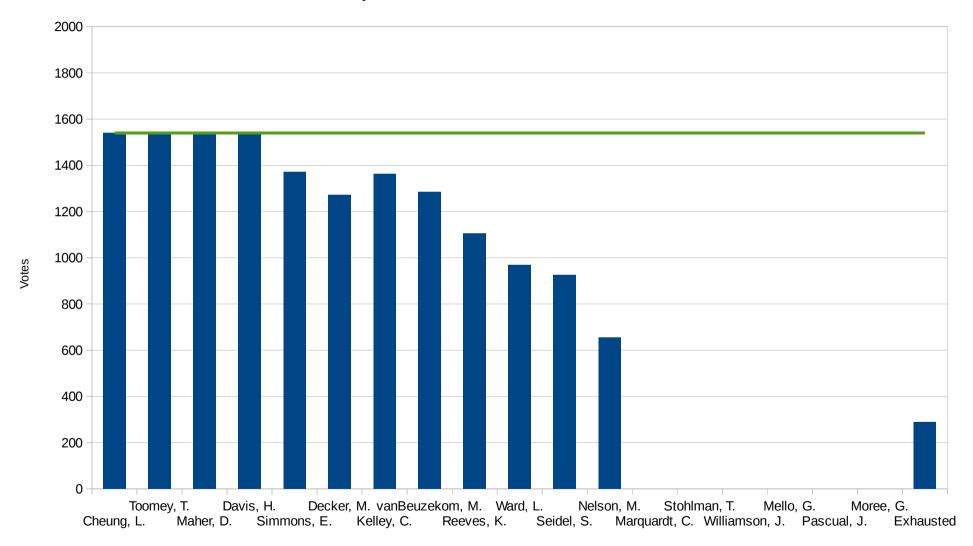
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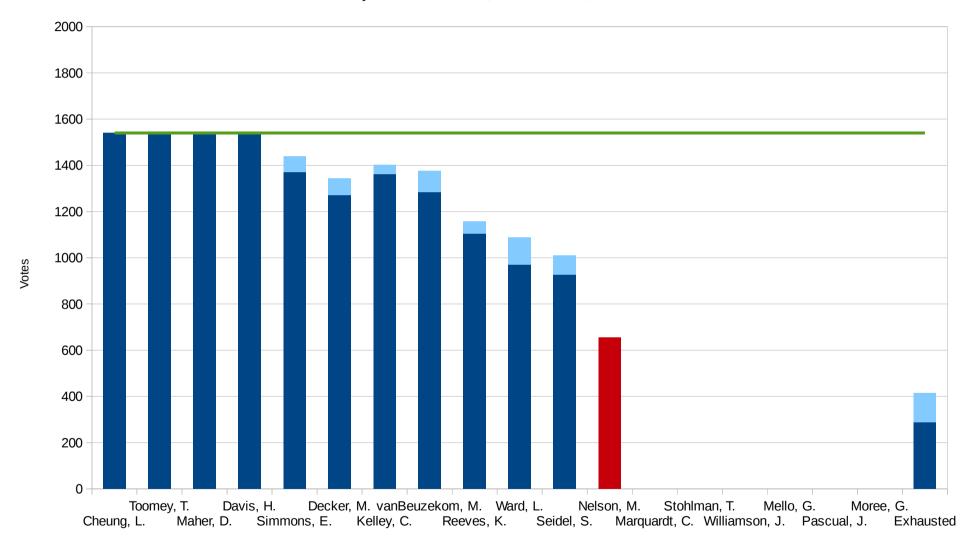
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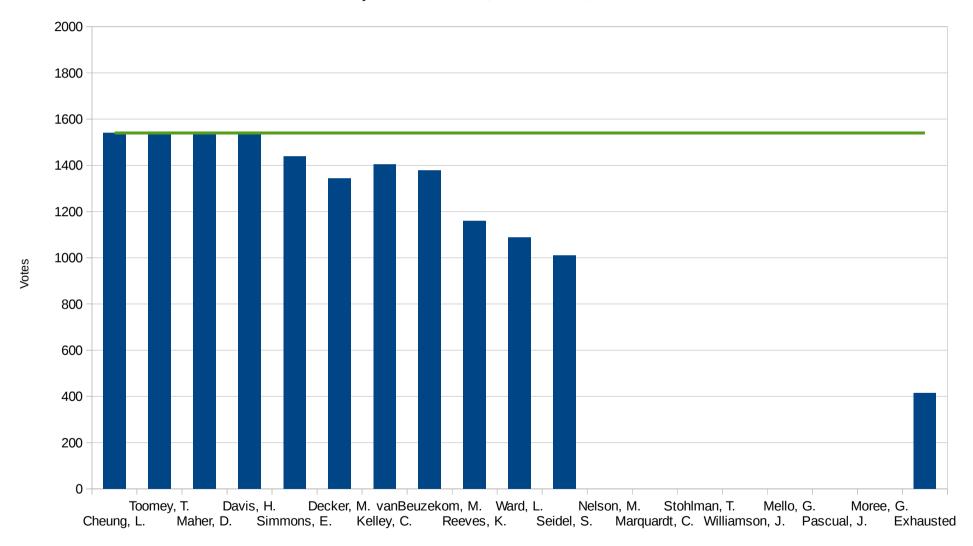
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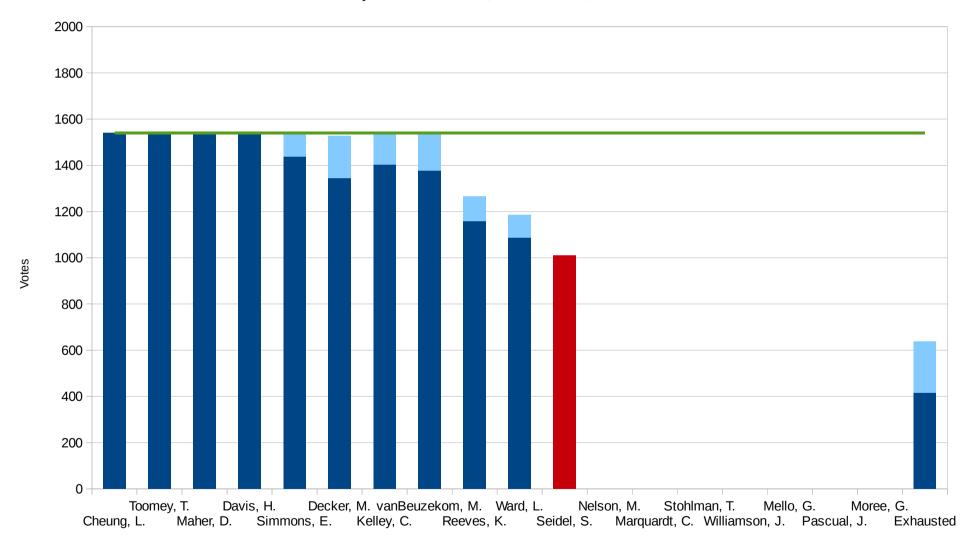
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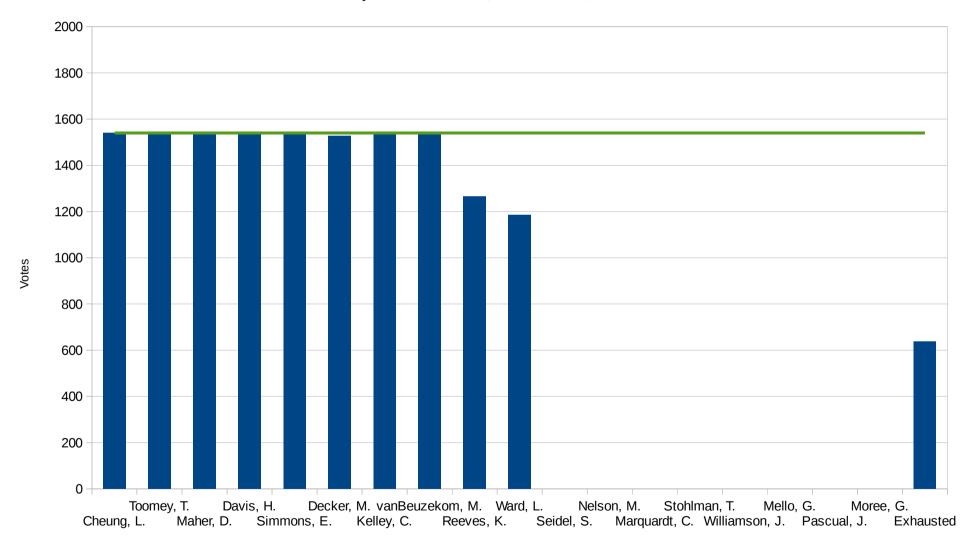
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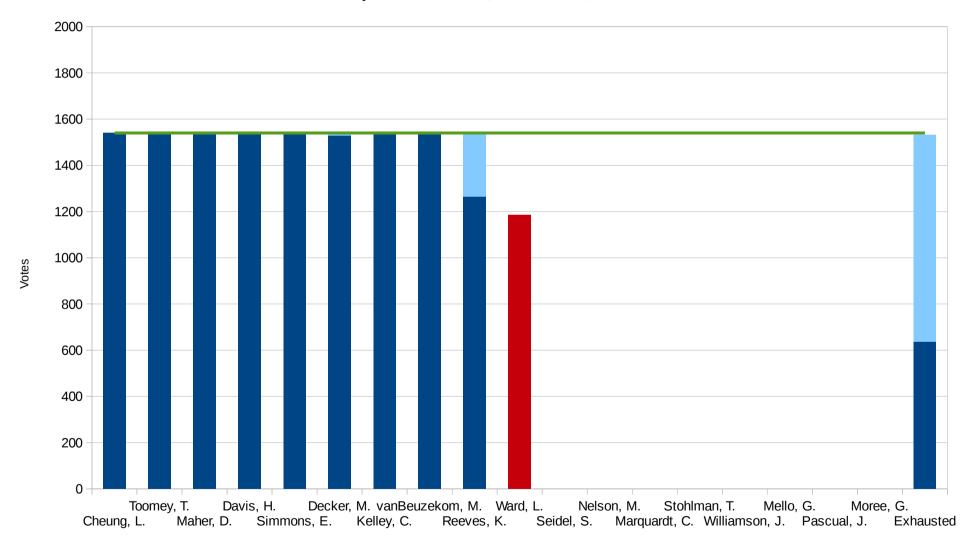
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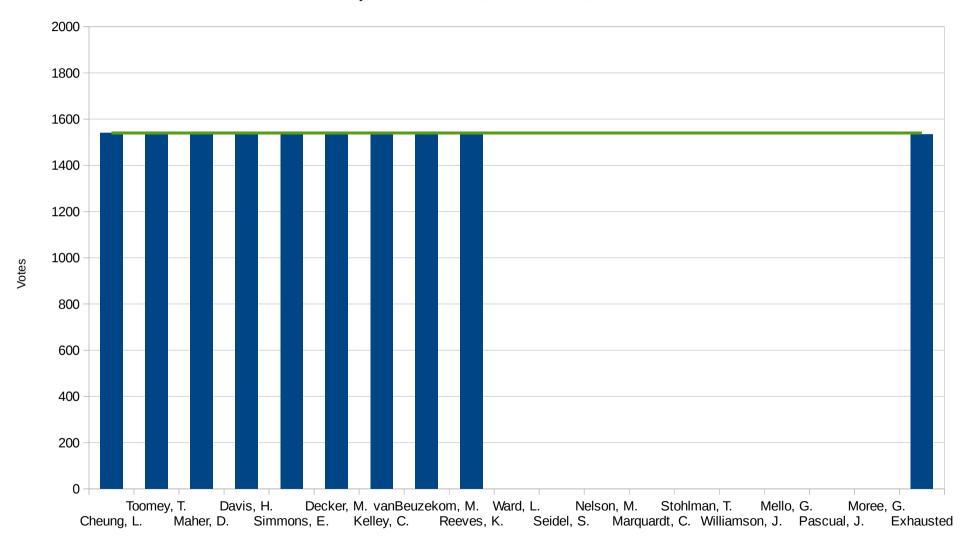
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#### Cambridge, Massachussetts

City Council Elections, November 8th, 2011



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#### Single Transferable Vote

The ballot:

•A ranked ballot for candidates of different parties, one to many candidates per party

Seats per electoral district:

•2-7 in BC-STV

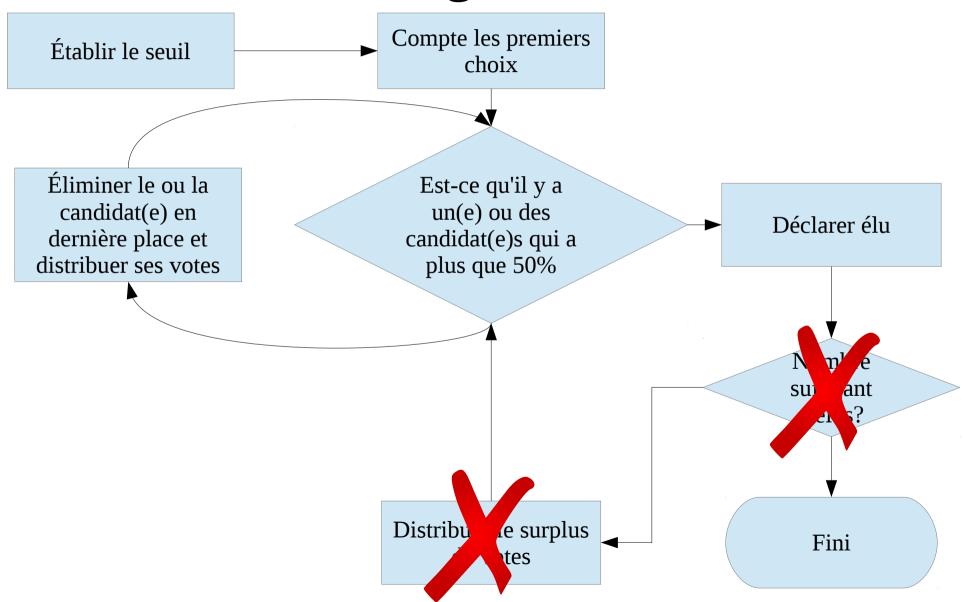
The algorithm:

- 1) Quota determined first
- 2) Count the one
- 3) Transfer votes of surplus or loosing candidate
- 4) Repeat until all seats are filled

# Alternative Vote (not proportional)

- Also called Instant Runoff Voting or preferential voting
- Like STV, has a ranked ballot
- Only one seat per district
- Threshold is set to 50%

## Vote alternatif L'algorithme



# Alternative Vote Preferential Voting

The ballot:

•A ranked ballot for candidates of different parties, one per party

Seats per electoral district:

•One seat per district

The algorithm:

- 1) Quota determined first
- 2) Count the number one
- 3) Transfer votes of loosing candidate
- 4) Repeat until one candidate has >50%

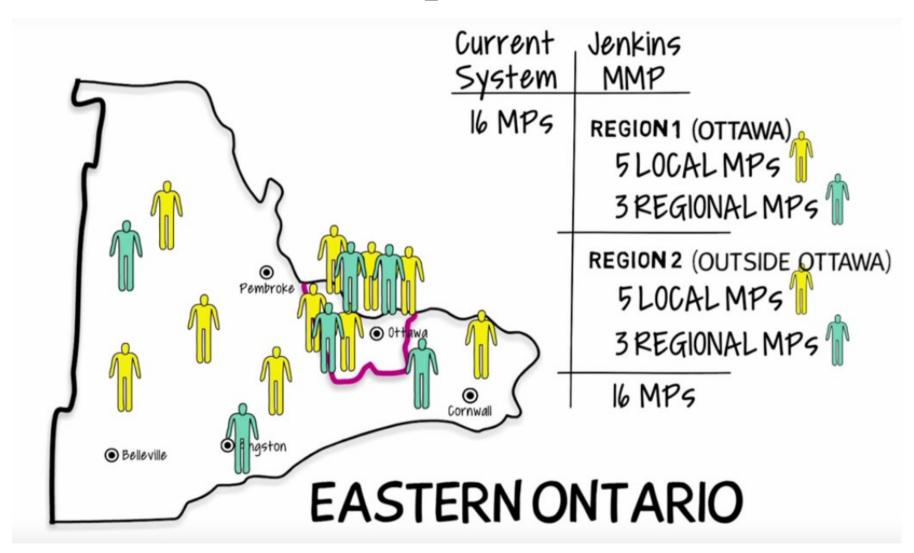
## 2015 according to Éric Grenier

_	Election	Proportional	Preferential
Liberal	184	134	224
Conservative	99	109	61
NDP	44	67	50
Bloc	10	16	2
Green	1	12	1

### Jenkins-inspired MMP

						<u></u>	114
FEDERAL ELECTION	N	Rid	ing: OTTAWA SOUTH	Region: OTTAWA	1stvote	CUI	121
have two vot	es:			Paper Ballot			<b>L</b> CHOICE
ease rank these candida nk as many candidates		OF PARLIAMENT in order	of preference (1 for you	preferred candidate, then 2, 3,	etc) 🔳	1	
Elle Saitoi Conservative	David McQuinty Liberal	James McLaren NDP	Mick Kitter Green	Romee Beltai Independent		^	
ote for a candidate counts as a vo n your negion so the total is prop Conservative	ote for that candidate's party. This portional to the votes for each party. Liberal	□ NDP	ping-up the numbers of MPs	ENT.	Jocal MP		2nd CHOICE
John Baird Conservative Pierre Politeure	Mauril Bélanger Liberal	Paul Dengr NDP	Jen Hunter Green				
Conservative Gordon 0 Corner	David McQuinty Liberal Anita Vandenbeld Liberal	Maritene Rivier NDP Trevor Haché NDP	Green Caroline Rioux Green			•	•
Conservative Royal Galipeau Conservative	Liberal  Karen McCrimmon Liberal	Eria Peters	Green John Hogg Green			11	-va
Flie Sailoi Conservative	David Bertschi Liberal	James McLaren NOP	Tanya Gutmanis Green				3 CHOICE
Domian Koretantinakos Conservativa	Ryan Roon Liberal	Martine Cénatus NOP	Mick Kiter Green				-CHOICE
					J	. 0	etc
						•	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,

#### Jenkins-inspired MMP



#### Jenkins-Day

The ballot:

•One vote for a party

•A ranked ballot for a

candidate

Seats per electoral district:

•50%-70% are local electoral

district

Remainder are list seats

The algorithm:

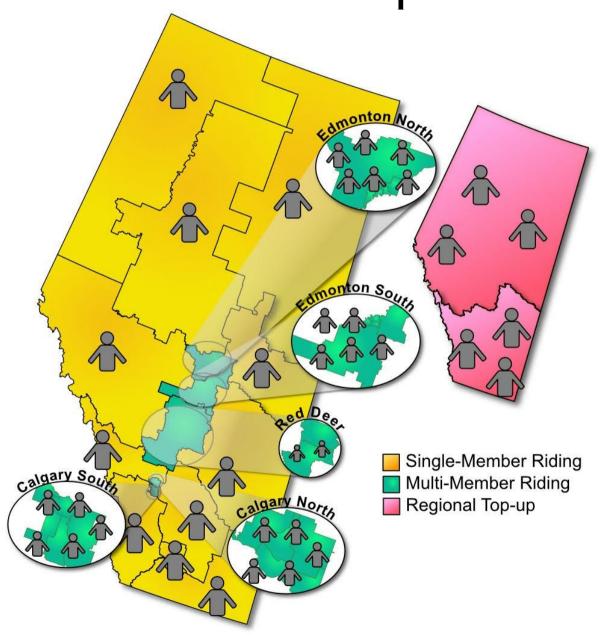
•Geographic seats first

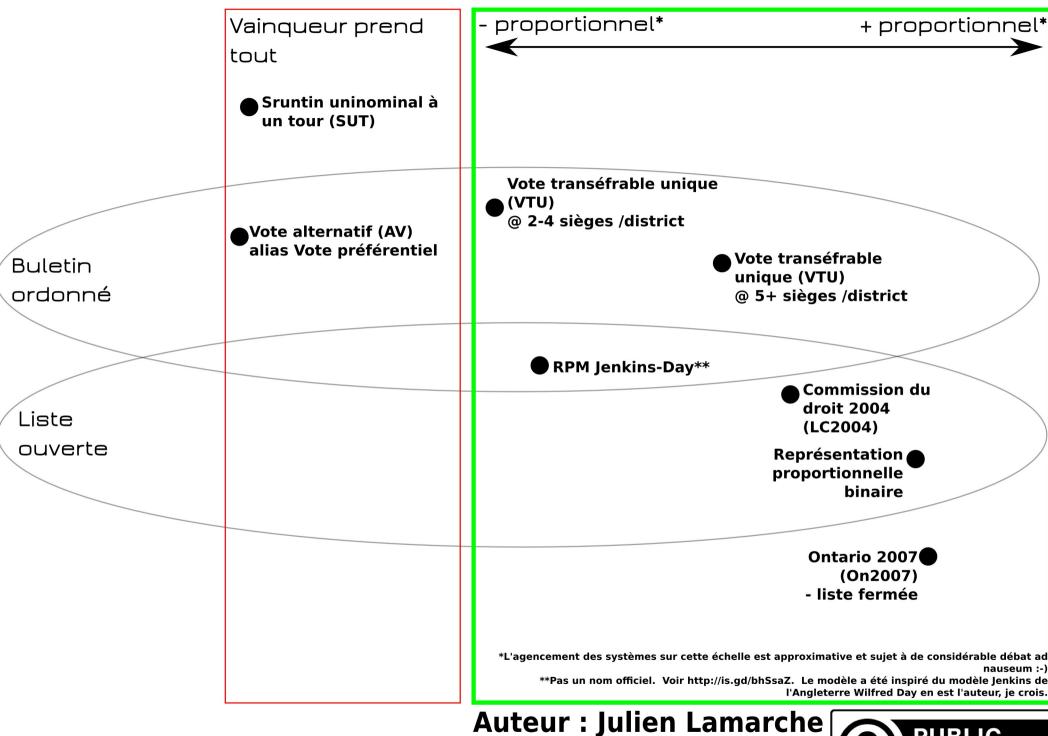
determined

•List seats compensate for lack

of proportionality

#### Rural-Urban Proportional





NCR@fairvote.ca | See http://www.fairvotecanadancr.ca/?q=node/105 pour des mises à jour



#### Where to go from here?

- Sign Declaration at http://fairvote.ca (supply postal code)
- Get your organization to support the PR cause (http://www.everyvotercounts.ca/about-us/)
- Go to Town Halls: Ottawa-Center, Hull-Aylmer (Thursday October 6th), Pontiac
- Write to your MP, ERRE@parl.gc.ca
- Get on our volunteers list : NCR@fairvote.ca
- Donate: http://www.fairvote.ca/donate/
- Write a letter : letters@ottawacitizen.com

#### Elavator pitch for PR

- « I want your vote & my vote to be equal & effective. That's why I'm advocating for proportinality. »
- « I want 39% of the vote to result in 39% of the seats, not 54% of the seats »

#### Rebutting to referendum advocates

- « I agree your **voice** should matter. I think it should matter every election with an equal vote. That's why I'm a proportionality advocate! »
- « I want your vote to be as equal and effective as mine! I want the vote of conservatives in Toronto & Atlantic Canada to elect somebody! Last election they elected no one. »

#### Where to go from here?

#### Bringing millions of Canadian voters together

































Guy Giorno, former Chief of Staff to Stephen Harper

Alex Himelfarb, former Clerk of the Privy Council

Col. (Retired) Pat Stogran, former Veterans' Ombudsman

### Where to go from here?



















































































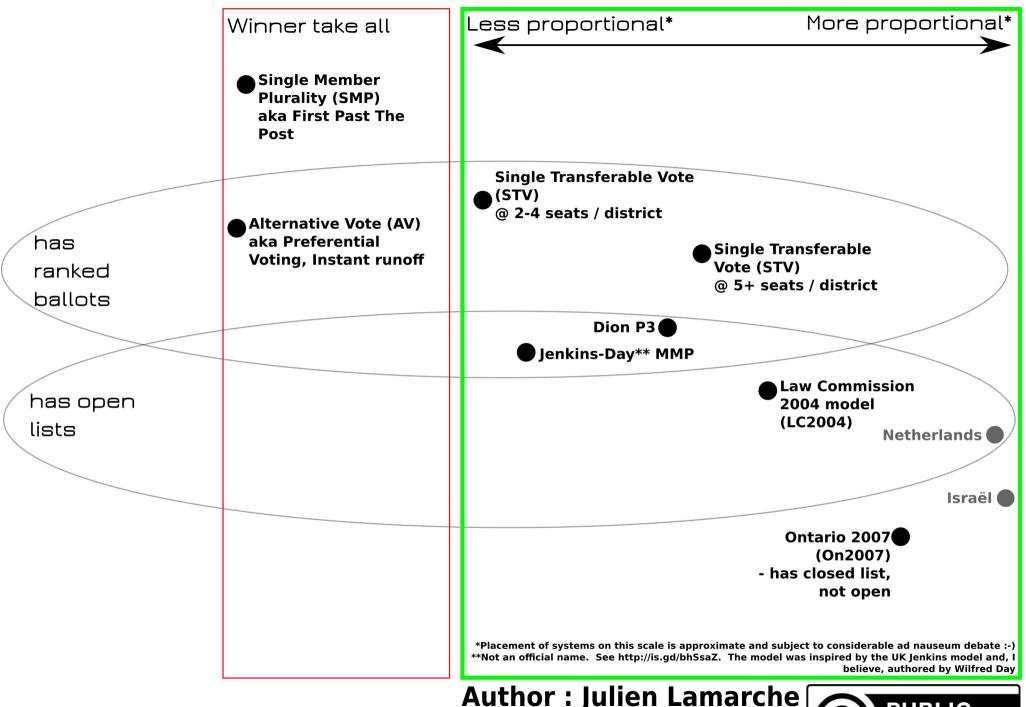












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