

Best Practices for media reporting on RCV elections Round 2 Testing

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Table of contents

4 How we tested

14 What we learned

27 Best Practices



Project overview

CCD tested 2 sets of sample displays, using bar graphs and tables to display the same result set.

We used numbers and adapted language from news articles about the 2022 Oakland Mayoral contest. This contest had 10 candidates, went to 9 rounds, and had a final winner who was second in 1st-round results, so it was a perfect set of numbers to hear participant reactions.

We wanted to learn:

- Is there a difference between people's understanding of RCV results communicated by bar graphs compared to tables?
- With limited space, is it more important to see all rounds or see all candidates?
- How do we educate people on results timeline from pending/1st round only to interim to final? Especially when the apparent winner changes?



How we tested

We tested in neighborhoods that had low ranking participation in 2021

Borough	
Brooklyn	10
Queens	10



We spoke to 20 people over 2 days

Race or Ethnicity	Participants
Black or African American	3
African/Middle Eastern	1
Hispanic or Latino/e	7
Asian	2
West Indian/Caribbean	1
Multi/Biracial	1
White or Caucasian	5

Age	Participants
18-29	6
30-39	7
40-49	2
50-69	5

Education Level	Participants
Middle School	1
High School	5
Some College	3
Associate or Bachelor Degree	10
Master's Degree	1

Gender	Participants
Male	12
Female	8



Most participants had voted before, but about half had never heard of RCV or were not familiar with it

Have you voted before?	Participants
Yes	15
No	5

How familiar are you with RCV?	Participants
Never heard of it	8
Not very familiar	4
Know about it but have not voted	1
Has voted using RCV	7



We asked people to tell us how they got their election news

This round, we had more participants who got election results by watching TV, compared to last round.

Where do you usually get your results?	Participants
TV	13
Online, search engine	6
Online, board of registrars	1
NYTimes	2
Twitter	2
Youtube	1



How we tested

We wanted to put people in the mindset of Election Day through learning about final election results.

Ballot A
Local Election, November 8, 2022
Oakland, California

Ballot B
Local Election, November 8, 2022
Oakland, California

City of Oakland Mayor
You ranked 5 candidates.

- Treva Reid
- Loren Taylor
- Ignacio de la Fuente
- Sheng Thao
- Allyssa Villanueva

We assigned people a ballot

Loren Taylor Leading on Election Night in Ranked Choice Voting election for Oakland Mayor
By CCD team

Loren Taylor is leading in the round results in the ranked-choice voting election to succeed Lily Skoff as mayor of Oakland, according to election night returns. The elections office will release results of the counting rounds early next week.

Ranked Choice Voting Interim Results for Oakland Mayor 2022
See round-by-round counting

Candidate	Percentage	Count
Loren Taylor	34.19%	12,247 votes
Sheng Thao	12.71%	4,375 votes
Ignacio de la Fuente	12.04%	4,114 votes
Allyssa Villanueva	6.54%	2,233 votes
Treva Reid	5.93%	2,023 votes
Gregory Hudge	4.27%	1,452 votes
Seneca Scott	3.81%	1,292 votes
John Barsten	3.37%	1,147 votes
Peter Liu	2.14%	728 votes
Tyler Jordan	1.56%	530 votes
Inocente Balboa	1.04%	357 votes

Among the 10 candidates running, Loren Taylor, Sheng Thao, and Ignacio de la Fuente all received more than 10% of the vote in the round results.

Final round results are dependent on these candidates' vote.

In a ranked-choice voting election, when candidates earn more than 50% of the choice votes, counting continues in rounds. At the end of each round, the candidate with the lowest votes is eliminated and their votes go to the next highest-ranked candidate on their ballot.

Learn more about how ranked-choice voting works.

E-Night Results

Taylor Leading Over Thao in Oakland Mayor Race
By CCD team

The Oakland Mayor's race will not close to call Thursday night. The Alameda County Registrar of Voters said their systems that have over 200,000 more voters remaining to count for the entire county. There will be another ranked update Monday night.

Ranked Choice Voting Interim Results for Oakland Mayor 2022
See round-by-round counting

Candidate	Percentage	Count
Loren Taylor	35.28%	12,547 votes
Sheng Thao	14.72%	4,947 votes
Ignacio de la Fuente	14.62%	4,807 votes
Inocente Balboa	2.43%	783 votes

Thursday night numbers showed that Loren Taylor was steady moving ahead with 33.1% and Sheng Thao as close, a difference of just over 2,700 votes in the alternative. Alameda County Registrar of Voters said they estimate that there are 120,000 more votes remaining for the entire county.

Round results showed the top four candidates.

Because no one got a majority vote in the 10-person race, eight candidates were eliminated, which leaves the two lowest-ranked, lowest choice votes, while counting was eliminated and got an additional vote, but will continue until one person gets a majority.

Learn more about how ranked-choice voting works.

Interim Results

Oakland Mayor 2022 Round by Round Results

Candidate	Round 1	Round 2
Loren Taylor	37.65%	44.76%
Sheng Thao	14.27%	15.36%
Ignacio de la Fuente	14.62%	14.86%
Allyssa Villanueva	6.79%	7.26%
Treva Reid	5.93%	6.22%
Gregory Hudge	4.27%	4.52%
Seneca Scott	3.81%	4.06%
John Barsten	3.37%	3.61%
Peter Liu	2.14%	2.28%
Tyler Jordan	1.56%	1.69%
Inocente Balboa	2.43%	2.57%

This is a long journey, and it is incredibly honored by the trust the voters have placed in me. They said in a message on Monday evening following the ballot counts which showed her winning by just 482 votes – or 30.76 to Taylor's 46.7%. Super, who represents District 5, had been the frontrunner in the race until just days ago. He conceded on Tuesday morning.

"Really happy to announce I spent some quality time making up the 482 votes together to alter the outcome of this election." He said, looking back years during a news conference in East Oakland's Sherman Park.

Taylor said he did not plan to push for a recount effort, but noted that the results' margin in the may 2022 City of Oakland Registrar of Voters' race was after they for Alameda County has used Dec. 8 to certify the results.

Interim Results Round by Round

Sheng Thao Wins Oakland Mayor Race
By CCD team

Nearly two weeks after Election Day, Sheng Thao declared on Monday morning right in Oakland that she'd won the race. She said following below County Registrar Lily Skoff's report by noon that she won in the final round (check early Alameda County has used Dec. 8 to certify the results).

Ranked Choice Voting Final Results for Oakland Mayor 2022
See round-by-round counting

Candidate	Percentage	Count
Loren Taylor	44.76%	15,237 votes
Sheng Thao	33.36%	11,230 votes
Ignacio de la Fuente	14.86%	4,947 votes
Inocente Balboa	2.57%	833 votes

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"Really happy to announce I spent some quality time making up the 482 votes together to alter the outcome of this election." He said, looking back years during a news conference in East Oakland's Sherman Park.

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Final Results

First, we assigned participants a ballot

We wanted to make sure that the displays were clear and trustworthy, no matter who our participants “voted” for.

Ballot A
Local Election, November 8, 2022
Oakland, California

City of Oakland
Mayor

You ranked 5 candidates.

1. Loren Taylor
2. Ignacio de la Fuente
3. Sheng Thao
4. Treva Reid
5. Seneca Scott

Ballot A

- 1st choice was leading in interim results, but does not win
- 3rd choice wins election

Ballot B
Local Election, November 8, 2022
Oakland, California

City of Oakland
Mayor

You ranked 5 candidates.

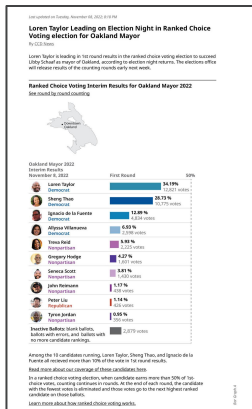
1. Treva Reid
2. Seneca Scott
3. Ignacio de la Fuente
4. Sheng Thao
5. Allyssa Villanueva

Ballot B

- 1st, 2nd, and 3rd choices all get eliminated in early rounds
- 4th choice wins election

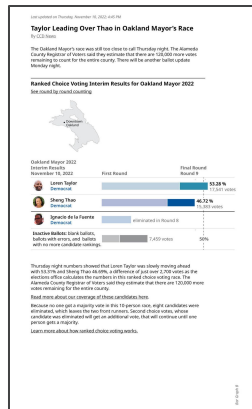


We showed participants 4 sample results displays. Half saw bar graph results, and half saw table results



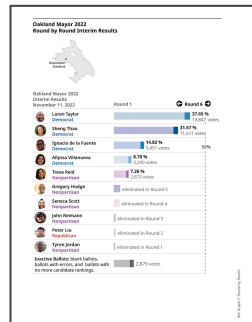
E-Night Results

Numbers reported on election night.



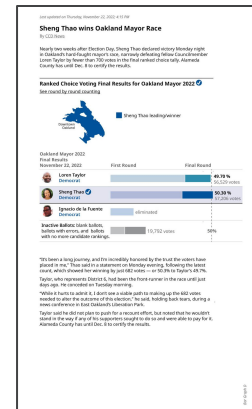
Interim Results

Numbers reported on 11/10 with 120,000 ballots outstanding



Round by Round

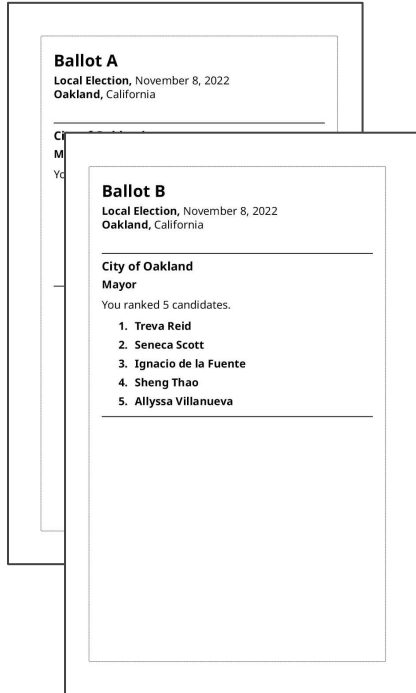
Interim results numbers "scrolling" between rounds. Rounds are numbered, instead of first/final.



Final Results

Final results from 11/22

There was no difference in participant understanding based on the ballot we assigned them




We tested with two ballots and two results displays

Ballot	Results style	Participants
Ballot A	Bar Graph	5
Ballot B	Bar Graph	5
Ballot A	Chart	4
Ballot B	Chart	6



We changed the Round by Round Table between Day 1 and Day 2 based on feedback

Oakland Mayor 2022
Round by Round Interim Results



Oakland Mayor 2022 Interim Results November 10, 2022		Round 1		Round 6	
Candidate	Party	Percent	Votes	Percent	Votes
Loren Taylor	D	34.19 %	12,821	37.65 %	13,847
Sheng Thao	D	28.73 %	10,775	31.57 %	11,611
Ignacio de la Fuente	D	12.89 %	4,834	14.82 %	5,451
Allysa Villanueva	D	6.93 %	2,598	8.70 %	3,200
Treva Reid	N	5.93 %	2,225	7.26 %	2,672
Gregory Hodge	N	4.27 %	1,601	eliminated in Round 5	
Seneca Scott	N	3.81 %	1,430	eliminated in Round 4	
John Reimann	N	1.17 %	438	eliminated in Round 3	
Peter Liu	R	1.14 %	426	eliminated in Round 2	
Tyron Jordan	N	0.95 %	356	eliminated in Round 1	
Inactive Ballots: blank ballots, ballots with errors, and ballots with no more candidate rankings.			2,879	3,602	
Total reported				40,383	

Table C: Round by Round

For Day 1, we designed a Round by Round table that focused on Round 6 with a scroll indicator

Oakland Mayor 2022
Round by Round Interim Results

Oakland Mayor 2022 Interim Results November 10, 2022		Round 1		Round 2		Round 3		Round 4		Round 5		Round 6		Round 7		Round 8		Round 9	
Candidate	Party	Percent	Votes	Percent	Votes	Percent	Votes	Percent	Votes	Percent	Votes	Percent	Votes	Percent	Votes	Percent	Votes	Percent	Votes
Loren Taylor	D	34.2%	12,821	34.3%	12,905	34.5%	12,942	34.6%	12,978	35.9%	13,332	37.7%	13,847	40.8%	14,772	43.5%	15,417	53.3%	17,541
Sheng Thao	D	28.7%	10,775	28.8%	10,850	29.2%	10,975	29.5%	11,054	30.2%	11,236	31.6%	11,611	33.6%	12,173	39.1%	13,844	46.7%	15,383
Ignacio de la Fuente	D	12.9%	4,834	13.1%	4,922	13.2%	4,954	13.3%	4,992	14.1%	5,239	14.8%	5,451	16.0%	5,787	17.4%	6,146	eliminated in Round 8	
Allysa Villanueva	D	6.9%	2,598	7.1%	2,658	7.1%	2,681	7.4%	2,757	7.7%	2,870	8.7%	3,200	9.7%	3,518	eliminated in Round 7			
Treva Reid	N	5.9%	2,225	6.1%	2,307	6.2%	2,336	6.3%	2,372	6.6%	2,466	7.3%	2,672	eliminated in Round 6					
Gregory Hodge	N	4.3%	1,601	4.4%	1,650	4.5%	1,678	4.6%	1,720	5.4%	2,013	eliminated in Round 5							
Seneca Scott	N	3.8%	1,430	3.9%	1,475	4.0%	1,509	4.3%	1,591	eliminated in Round 4									
John Reimann	N	1.2%	438	1.2%	458	1.3%	491	eliminated in Round 3											
Peter Liu	R	1.1%	426	1.2%	446	eliminated in Round 2													
Tyron Jordan	N	0.9%	356	eliminated in Round 1															
Inactive Ballots: blank ballots, ballots with errors, and ballots with no more candidate rankings.			2,879	2,712	2,817	2,919	3,227	3,602	4,133	4,976	7,459								
Total reported																			40,383

Table C: Round by Round

One participant expressed wanting to see all the numbers, so we changed this sample display for Day 2. Indicating a scroll on paper wasn't clear enough!

What we learned

Overall findings

There was no mention of maps or images

This is an improvement from R1 testing, where many participants asked for maps and candidate images to be included.











1 person briefly mentioned candidate images.

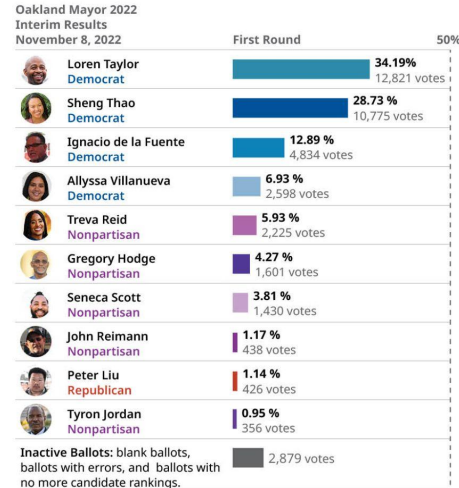
- *“You can match the face to the name”* —LH03



There was no difference in understanding between participants who saw bar graphs vs. tables

Participants had similar understanding of eliminated candidates, and leader/winner.

Oakland Mayor 2022 Interim Results November 8, 2022			First Round		Final Round	
Candidate	Party	Percent	Votes	Percent	Votes	
 Loren Taylor	D	34.19 %	12,821			
 Sheng Thao	D	28.73 %	10,775			
 Ignacio de la Fuente	D	12.89 %	4,834			
 Allyssa Villanueva	D	6.93 %	2,598			
 Treva Reid	N	5.93 %	2,225			
 Gregory Hodge	N	4.27 %	1,601			
 Seneca Scott	N	3.81 %	1,430			
 John Reimann	N	1.17 %	438			
 Peter Liu	R	1.14 %	426			
 Tyron Jordan	N	0.95 %	356			
Inactive Ballots: blank ballots, ballots with errors, and ballots with no more candidate rankings.			2,879			
Total reported			40,383			



Only about half of participants were able to identify the status of pending or interim results

We have a lot of really clear indicators for final results. But, it was hard for participants to understand what *not* having those indicators meant before they saw them.

Level of familiarity with RCV had nothing to do with this.

- *“It looks like it's over. The final round is over...At the top it says there will be another update” —EW03*



Some participants felt confused by the term “interim results” and looked for more information

Some didn't understand the word interim when it was used on the page.

- *“It's interim. Don't know what that means. They're still counting votes so it's not final yet.” —EW05*

A few participants looked for voter turnout numbers to understand the status of results

- *“I'm trying to see the rate of voter turnout” —EW02*
- *“It's the beginning because only 12,000 people voted” —LH02*
- *“133,000 people voted. It's complete. The difference in numbers” —LH01*



Almost all participants identified when candidates were eliminated. But, half couldn't identify why.

Level of familiarity with RCV had nothing to do with this.

Some people guessed (correctly) that the reason was a low number of votes, but they weren't sure:

- *"Maybe she didn't get that much percentage"* —EW06
- *"Maybe because numbers are so low"* —LH01
- *"Not sure maybe didn't get enough votes"* —FS08



Participants agreed that the round by round was useful, but it was unnecessary for some

All participants liked the round by round information.

- *“To me it gives step by step info. More confidence that what you’re seeing is right” —LH01*
- *“This is where my candidate got eliminated and their votes got dispersed” —EW03*

Half found it unnecessary.

- *“This is confusing. I don’t know if I want to look at all the rounds. Maybe just first and last to compare” —LH03*
- *“Yes, not necessary though. Someone more interested in elections would find it necessary.” —FS07*

Participants want to see all the candidates, especially in final results, but not necessarily all the rounds.



All participants correctly identified the status of final results

Participants looked to different indicators that clearly told them who the winner was.

- *“There’s a checkmark, and it has a blue background. It says winner” —EW04, table*
- *“Checkmark is a good indicator. Highlighting too.” —FS09*
- *“Checkmark makes it clear but with interim results I didn’t know how many ballots were left to count. Now I see, but it wasn’t clear before” —EW05*



All participants correctly identified the winner

Some of the participants were confused about why and how the winner was chosen. Level of familiarity with RCV had nothing to do with their confusion.

- *“It’s funny all of a sudden the second candidate won. Loren was winning all the way, how come she won?” —LH03*
- A few people asked for other information, like more detailed numbers, and breakdown by district, in order to understand why the early leader didn’t end up winning.



In the final display, a few participants wanted the winning candidate to be at the top

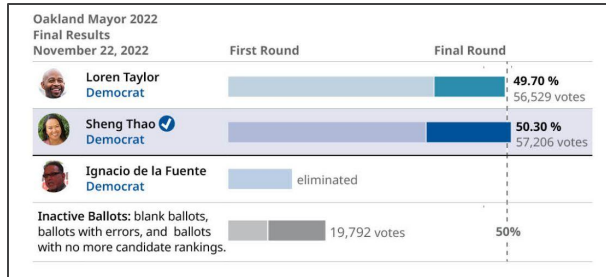
We designed the sample displays to maintain a consistent order of candidates based on their 1st-round votes.

All of the participants who wanted the winning candidate at the top identified the correct winner, but were confused by the order.

- *“She should be moved to the top to avoid confusion.”* —LH04
- *“She won but why is she second?”* —FS07



Bar graph visuals in RCV elections with more than two rounds are confusing



There is a limit to how much information a bar graph can communicate before the segments get too small to see or label.

Half of the participants who saw bar graphs were confused by what the color saturation meant. These participants did not correlate degree of saturation to rounds.

- *“Bars are confusing. Why does it change shades?”* —FS01
- *“You need to explain the shading”* —FS02

Participants were also confused by the labels “First Round” and “Final Round.”



A few participants mentioned inactive ballots (Wildcard)

We included a definition of inactive ballots in the visual.

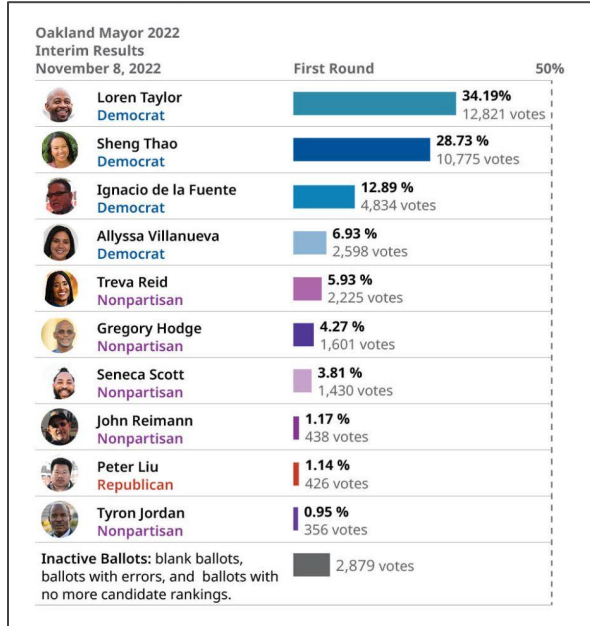
***“Inactive Ballots:** blank ballots, ballots with errors, and ballots with no more candidate rankings.”*

For some participants that wasn't enough. Participants wondered what happens with the inactive ballots.

- *“There's a lot of inactive ballots. What's happening with them. I want to know” —LH04*



50% mark on bar graph caused confusion for some (wild card)



In samples with bars graphs, some participants were confused by the 50% mark.

Participants unfamiliar with RCV thought it signified the amount of votes counted or status of the results. They did not realize that a candidate needs 50% to win in a RCV election.

These participants asked for better explanation of the 50% mark, either as a definition or a footnote.

- *"I'm not sure what the percentages are talking about, but I understand who is winning." —LH04*
- *"50% should say winner?" —FS06*



Best practices

Additions and clarifications based on this round of testing

Use multiple signifiers on final results

People associate the following indicators with winning/final results. **Do not** use any of these indicators until there is a final winner.

To indicate final results and the final winner, use multiple of the following:

- Check mark
- Highlight the winner
- Bold the winner's name
- Name winner in article title
- Place winner at the top of the visual
- Final round in the visual
- Color in the map and include a key



Include as much context in the visual as possible. People look there first, then at header, then at text.

Information about the contest










- Office
- Location
- Status of results













Information about RCV

- A definition of what inactive ballots are, and what happens with them
- How many rounds there were by numbering them



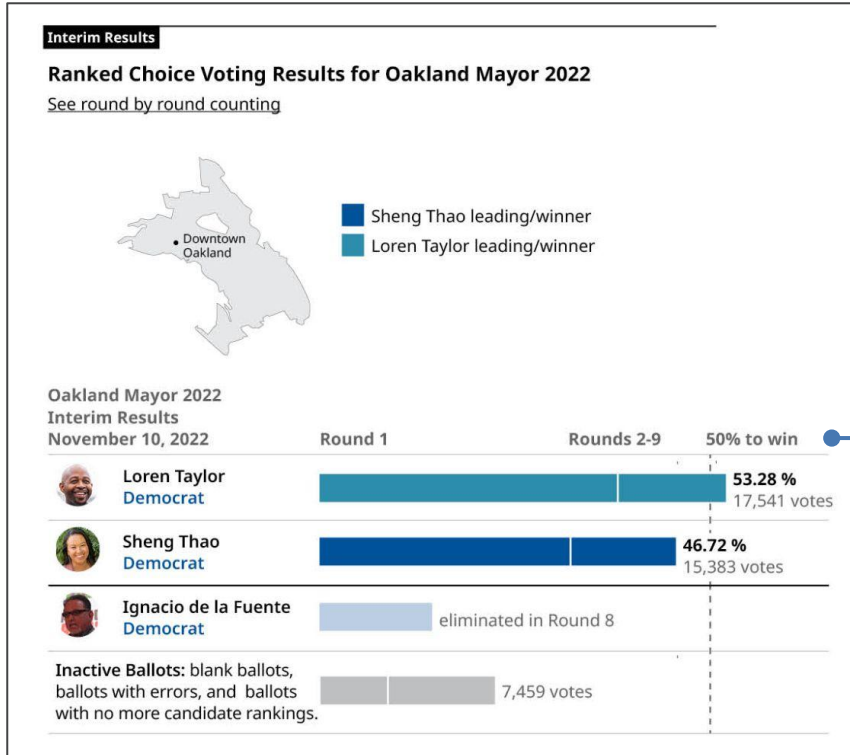
Include “Eliminated in Round n” next to eliminated candidates in the visual

	Sheng Thao	D	28.73 %	10,775	46.72%	15,383
	Ignacio de la Fuente	D	12.89 %	4,834	<i>eliminated in Round 8</i>	
	Allyssa Villanueva	D	6.93 %	2,598	<i>eliminated in Round 7</i>	
	Treva Reid	N	5.93 %	2,225	<i>eliminated in Round 6</i>	
	Gregory Hodge	N	4.27 %	1,601	<i>eliminated in Round 5</i>	
	Seneca Scott	N	3.81 %	1,430	<i>eliminated in Round 4</i>	
	John Reimann	N	1.17 %	438	<i>eliminated in Round 3</i>	
	Peter Liu	R	1.14 %	426	<i>eliminated in Round 2</i>	
	Tyron Jordan	N	0.95 %	356	<i>eliminated in Round 1</i>	

	Treva Reid Nonpartisan	 7.26 % 2,672 votes
	Gregory Hodge Nonpartisan	 eliminated in Round 5
	Seneca Scott Nonpartisan	 eliminated in Round 4
	John Reimann Nonpartisan	 eliminated in Round 3
	Peter Liu Republican	 eliminated in Round 2
	Tyron Jordan Nonpartisan	 eliminated in Round 1



Define 50% mark in bar graphs













“50% to win”

Or, in a multi winner contest whatever percentage is needed to win.



If possible include all candidates, even in final results

People want to see all the candidates

Oakland Mayor 2022 Final Results November 22, 2022			First Round		Final Round	
Candidate	Party	Percent	Votes	Percent	Votes	
 Loren Taylor	D	33.07 %	41,510	49.70 %	56,529	
 Sheng Thao ✓	D	31.79 %	39,909	50.30 %	57,206	
 Ignacio de la Fuente	D	10.27 %	12,893	<i>eliminated</i>		
 Allyssa Villanueva	D	8.72 %	10,949	<i>eliminated</i>		
 Treva Reid	N	6.08 %	7,627	<i>eliminated</i>		
 Gregory Hodge	N	4.62 %	5,798	<i>eliminated</i>		
 Seneca Scott	N	2.98 %	3,745	<i>eliminated</i>		
 John Reimann	N	1.01 %	1,268	<i>eliminated</i>		
 Peter Liu	R	0.76 %	960	<i>eliminated</i>		
 Tyron Jordan	N	0.69 %	862	<i>eliminated</i>		
Inactive Ballots: blank ballots, ballots with errors, and ballots with no more candidate rankings.			8,005		19,792	
Total reported					133,527	



Make it easy for people to access additional information

People want different amounts and types of information to help them understand how the winner won and how the contest went. It should be easy for people to access this information when they're curious. If it isn't, they will go back to Google to find it!

If the information isn't on the results display, include easy to access links to:

- Round by round numbers with all candidates and all available rounds included
- Additional information about the candidates. For example, "[Read more about our coverage of the candidates](#)"
- Explanations of RCV. For example, "[Learn more about how ranked choice voting works](#)"



Select a visual display based on the number of rounds reported

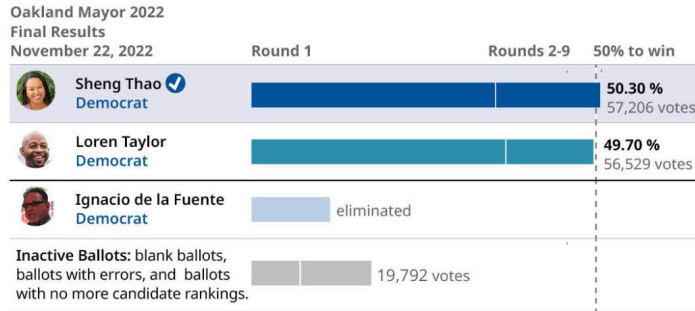
Both tables and bar graphs can accurately communicate the winner of many candidate contests. But this research showed that bar graphs are confusing when communicating many round contests.











- If the contest is 2 rounds or less, use a table or a bar graph.
- If the contest is 2 or more rounds, avoid bar graphs. This round of research found, tables are better at communicating many candidate, many round RCV contests.

More testing is needed to understand how many rounds a bar graph can communicate accurately, and whether they are effective for communicating rounds at all.



In final results, put the winner in the top row of the data visualization






Oakland Mayor 2022 Final Results November 22, 2022		Round 1		Final Round Round 9	
Candidate	Party	Percent	Votes	Percent	Votes
 Sheng Thao ✓	D	31.79 %	39,909	50.30 %	57,206
 Loren Taylor	D	33.07 %	41,510	49.70 %	56,529
 Ignacio de la Fuente	D	10.27 %	12,893	<i>eliminated</i>	
 Allyssa Villanueva	D	8.72 %	10,949	<i>eliminated</i>	
 Tрева Reid	N	6.08 %	7,627	<i>eliminated</i>	
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 Seneca Scott	N	2.98 %	3,745	<i>eliminated</i>	
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 Tyron Jordan	N	0.69 %	862	<i>eliminated</i>	
Inactive Ballots: blank ballots, ballots with errors, and ballots with no more candidate rankings.			8,005		19,792






Label the rounds with numbers

When the results are final, change the last round label to “Final Round.” People assume that final round means final results, even in labelled interim or unofficial results.

Oakland Mayor 2022 Interim Results November 10, 2022			Round 1		Round 9	
Candidate	Party	Percent	Votes	Percent	Votes	
 Loren Taylor	D	34.19 %	12,821	53.28%	17,541	
 Sheng Thao	D	28.73 %	10,775	46.72%	15,383	
 Ignacio de la Fuente	D	12.89 %	4,834	<i>eliminated in Round 8</i>		

Unofficial results

Oakland Mayor 2022 Final Results November 22, 2022			Round 1		Final Round Round 9	
Candidate	Party	Percent	Votes	Percent	Votes	
 Sheng Thao ✓	D	31.79 %	39,909	50.30 %	57,206	
 Loren Taylor	D	33.07 %	41,510	49.70 %	56,529	
						

Final results



Thank you

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