Engagement and Abuse on Toronto’s Digital Campaign Trail

The SAMbot 2023 Toronto Mayoral By-election Report

Samara Centre for Democracy
The Samara Centre for Democracy is a non-partisan registered charity dedicated to realizing a resilient democracy with an engaged public and responsive institutions. Our research and programs make us a go-to resource for active citizens, educators, public leaders and the media.

Acknowledgment
We thank the team at Areto Labs for their technical expertise, input and collaboration.

Authors
Beatrice Wayne
Alex MacIsaac
Sabreena Delhon

How to cite this report

Data Release
For access to the data included in this report, including Twitter engagement data, abuse data, candidate debate attendance, polling results, and more, please refer to the [SAMbot 2023 Toronto Mayoral By-election Data Release](#).

If you have any other questions about our data or the SAMbot project, please reach out to us at hello@samaracentre.ca.
At a Glance

The Samara Centre for Democracy monitored activity on Twitter during the 2023 Toronto Mayoral By-election as part of our SAMbot project, a multi-year machine learning initiative that measures abusive content received by Canadian political candidates online. We found that online abuse was prevalent during this election period (May 13 to June 26, 2023).

We monitored a total of 124,730 tweets during the election period. 3,988 of these tweets were identified as abusive. 90% of abusive tweets targeted top 9 candidates. 30 Twitter users accounted for 10% of abusive tweets.

Key takeaways:

- A handful of Twitter users accounted for a significant percentage of all abusive tweets, suggesting that a small number of people are exerting an outsized effect on our online political conversations.

1 The social media platform formerly known as “Twitter” has rebranded as “X” since we monitored this election. The platform was still called “Twitter” when we collected this data, so we refer to the platform as “Twitter” throughout this report.
Content related to LGBTQ+ rights was correlated with online abuse and some of the highest periods of engagement, a trend we’ve observed in our past research.

Legacy media has a powerful ability to affect both online engagement and polling results, as lower-polling candidates rose in both online activity and in polling after being featured in debates or media profiles. This power can be used to either empower or exclude candidates from achieving wider reach and appeal.

Twitter engagement and electoral success wasn’t correlated, but online engagement was entwined with fiscal, political, and social capital regarding success in the Toronto by-election. Candidates were able to extend their reach when: they received endorsements and support from previously held political relationships; they were included in exposure opportunities because of their public personas; they had large pre-existing audiences on or offline; and they bought attention through advertising. All of these privileges or advantages could play a role in increasing organic online engagement.

Our findings emphasize that online spaces and offline spaces are not separate worlds. What happens in the online realm is intertwined with the physical world, and a part of one shared civic dialogue. As we grapple with how technology is influencing our democracy, we must consider how the working conditions for candidates on the local digital campaign trail are shaping who runs for, and who wins, municipal office.
Background

John Tory was elected mayor of Toronto in the fall of 2022, in an election where only 29.7% of eligible voters cast their ballots. Tory resigned from the mayoral chair in February 2023 and a mayoral by-election was called for Toronto in the spring of 2023. This election saw an increase in turnout from the 2022 election — the by-election had a voter turnout of 38.5%.

The 2023 Toronto mayoral by-election remarkably had 102 candidates of diverse personal and professional backgrounds. Some had formerly held significant political positions, some were long-time local advocates, and others were largely unknown candidates who did not provide much public information about their candidacies.

For 45 days, from the end of the candidate nomination period to the end of election day (May 13 to June 26, 2023), we monitored 53 mayoral candidates on Twitter. The remaining candidates did not have public or active Twitter accounts as of the end of the election's nomination period.
The Candidates

Olivia Chow

- 269,372 votes
- 37% of votes
- 33,930 tweets
- 960 abusive tweets

Olivia Chow is a former school trustee and Toronto city councillor. She served as the Member of Parliament (MP) for Trinity-Spadina from 2006 to 2014. She placed third in the 2014 Toronto mayoral race, and was ultimately elected mayor of Toronto in the 2023 mayoral by-election.

Ana Bailão

- 235,175 votes
- 32% of votes
- 8,108 tweets
- 143 abusive tweets

Ana Bailão served three terms on the Toronto city council from 2010-2022, two as a councillor and one as deputy mayor. She retired from council in 2022 and did not run in that year’s municipal election. She was endorsed by outgoing Mayor of Toronto John Tory during her 2023 mayoral campaign.

Candidate images are sourced from candidates’ by-election campaign materials.
Mark Saunders formerly served as the chief of police for the Toronto Police Service. He ran as the Progressive Conservative candidate for Member of Provincial Parliament (MPP) in Don Valley West during the 2022 Ontario election. He was endorsed by Premier of Ontario Doug Ford during his 2023 mayoral campaign.

Anthony Furey is a former Toronto Sun columnist, talk radio host, and news media executive.
<table>
<thead>
<tr>
<th>Josh Matlow</th>
<th>Mitzie Hunter</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Josh Matlow" /></td>
<td><img src="image2.png" alt="Mitzie Hunter" /></td>
</tr>
<tr>
<td><strong>35,572</strong> votes</td>
<td><strong>21,229</strong> votes</td>
</tr>
<tr>
<td><strong>5%</strong> of votes</td>
<td><strong>3%</strong> of votes</td>
</tr>
<tr>
<td><strong>11,310</strong> tweets</td>
<td><strong>2,856</strong> tweets</td>
</tr>
<tr>
<td><strong>165</strong> abusive tweets</td>
<td><strong>50</strong> abusive tweets</td>
</tr>
<tr>
<td>#5 in votes</td>
<td>#6 in votes</td>
</tr>
<tr>
<td>#5 in tweets</td>
<td>#9 in tweets</td>
</tr>
<tr>
<td>#6 in abusive tweets</td>
<td>#12 in abusive tweets</td>
</tr>
</tbody>
</table>

Josh Matlow is a Toronto city councillor for Ward 12, and has been on city council since 2010. While still a councillor, Matlow ran in the mayoral by-election. He remains a councillor as of publication.

Mitzie Hunter served as the MPP for Scarborough-Guildwood from 2013-2023 and Ontario's minister of education from 2016-2018. She resigned from the Ontario legislature to participate in the 2023 Toronto mayoral by-election.
Chloe Brown is a policy analyst, activist, and former Toronto mayoral candidate. She placed third in the 2022 Toronto mayoral race.

Brad Bradford is a Toronto city councillor for Ward 19, and has served in that role since 2018. While still a councillor, Bradford ran in the mayoral by-election. He remains a councillor today.
Chris Saccoccia, commonly known as “Chris Sky,” is a Canadian property developer. He has been active in advocating against public health measures since the outbreak of COVID-19.
Abuse and Online Engagement Unpacked

The eventual mayor and a fringe candidate had similar engagement and levels of abuse — but very different experiences online.

From our previous work with SAMbot, it is clear that a candidate’s lived experience on the digital campaign trail can’t be captured by numbers alone. Quantitative data, the type of numerical data that SAMbot produces, has helped us measure and quantify the state of online civic discussions at a massive scale. However, qualitative research is also necessary to understand how online abuse manifests in relation to individual candidates, and how this affects participation in municipal politics. This means we need to look deeper to uncover who or what topics attract abuse, why certain candidates or topics are targeted, and the precise nature of the abusive conversation.

Comparing the respective online engagement of Olivia Chow and Chris Saccoccia, also known as Chris Sky, two very different mayoral candidates, illuminates how experiences of online abuse can greatly differ between people running for office — even if the quantitative data is similar.

These two candidates saw the highest engagement and received the highest amount of abuse on Twitter in the 2023 Toronto mayoral by-election. Exploring their experiences on the digital campaign trail demonstrates two important takeaways: the lived experience of online abuse varies widely depending on the context, and LGBTQ+ content has become a concerning vector of abuse in municipal politics.
Chow and Saccoccia: Two very different candidates, with similar volumes of abuse

Toronto 2023 mayoral by-election voting results

<table>
<thead>
<tr>
<th>Candidate</th>
<th>Votes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Olivia Chow</td>
<td>289,372</td>
</tr>
<tr>
<td>Ana Bailão</td>
<td>235,175</td>
</tr>
<tr>
<td>Mark Saunders</td>
<td>62,167</td>
</tr>
<tr>
<td>Anthony Furey</td>
<td>35,899</td>
</tr>
<tr>
<td>Josh Matlow</td>
<td>35,572</td>
</tr>
<tr>
<td>Mitzie Hunter</td>
<td>21,229</td>
</tr>
<tr>
<td>Chloe Brown</td>
<td>18,831</td>
</tr>
<tr>
<td>Brad Bradford</td>
<td>9,254</td>
</tr>
<tr>
<td>Chris Saccoccia</td>
<td>8,001</td>
</tr>
<tr>
<td>All 93 other candidates</td>
<td>29,138</td>
</tr>
</tbody>
</table>
Olivia Chow won the election with 37% of the vote. Chris Saccoccia finished with 1% of ballots cast.

Despite much different results at the polls, Chow and Saccoccia had similar outcomes in online engagement and abuse.

Chow and Saccoccia are very different Canadian political figures. Chow was elected mayor of Toronto in 2023. She had a long and diverse political career preceding this result, including serving as a school board trustee, Toronto city councillor, and MP for the Trinity-Spadina riding. She previously ran for mayor of Toronto in 2014, and placed third (with 23% of the vote), behind candidates John Tory and Doug Ford.

This election marked the first time that Saccoccia ran for political office. He had built a large digital following during the COVID-19 pandemic as a leading Canadian voice in anti-mask, anti-vaccine, and conspiracy theory spaces online. He has been arrested and received criminal charges for uttering death threats against public figures multiple times, including during the by-election.
Their different approaches to social media

These candidates’ approaches to social media use were very different. Chow put out strongly curated tweets, sharing her policy goals, images promoting her campaign, and videos with high production value, taken from media appearances.

Saccoccia tweeted frequently during the election campaign — from May 1 to June 30, he tweeted 984 times. For comparison, Chow tweeted 374 times in the same period. His tweets often focused on identity politics, conspiracy theories, and policy issues outside of municipal jurisdiction.

Saccoccia engaged in online arguments during the campaign, sharing toxic and abusive content in the process. He practiced a form of negative campaigning, a political strategy focused on criticizing other people, groups, or policies. This kind of behaviour is in part reinforced by social media algorithms that tend to incentivize and promote negative content.

While both candidates received abusive content on Twitter, Saccoccia also used abusive content to engage followers and spread his views and campaign. Saccoccia posted videos promoting conspiracies about other candidates and about the city and election, often arguing with Twitter users publicly. Digital platforms’ content recommendation systems tend to favour incendiary and divisive content, which encourages and incentivizes rhetoric like Saccoccia’s, as this can draw a larger audience. Comparing Chow and Saccoccia demonstrates how candidates who use social media in different ways can experience very different online realities.

Closely comparing the abusive language in tweets sent to a candidate, and the tweets sent by candidates themselves, then, shows us that identifying the volume of abusive tweets received by candidates doesn’t tell the whole story. It is critical to explore how this identified abuse manifests to understand the whole picture. This type of inquiry needs to be done on a case-by-case basis when evaluating targets of significant online abuse, as different aspects of a candidate, such as their identity, background, and their willingness to share toxic and divisive content, can all contribute to the amount of abusive content they receive.
LGBTQ+ issues key vector of abuse

Posts focused on LGBTQ+ issues coincided with an increase in both engagement and abusive tweets for Chow and Saccoccia during the election. This follows a concerning trend in abusive anti-LGBTQ+ rhetoric emerging at the forefront of Canadian political conversations, which we previously observed in our Online Abuse in Local Elections: The SAMbot Municipal Report.

Anti-LGBTQ+ hate is on the rise in Canada, and LGBTQ+ rights have become major political topics both internationally and in Canada. The forms of engagement directed at Chow and Saccoccia related to LGBTQ+ rights reinforce that even at the municipal level, these discussions are significant drivers of online engagement and toxicity.

The machine learning models that power our SAMbot data analysis are not designed to discern context or the target of a message in the way people would expect. This is especially evident in cases where attacks on identity or a specific community are involved. This means that, for example, tweets are categorized as abusive in cases where hateful anti-LGBTQ+ tweets are sent to candidates, whether that tweet is speaking in agreement with the user they’re replying to or not. We observed that since Saccoccia shared hateful messages about LGBTQ+ Canadians, he received many tweets that were evaluated as abusive that were in support of him as a candidate and his views on LGBTQ+ people. Conversely, he also received many tweets that were labelled as abusive that were critical of his anti-LGBTQ+ rhetoric. This is an example of why quantitative data is not enough to tell the whole story when exploring the issue of abuse online.
Throughout the election, Chow's volume of tweets remained relatively steady day to day, aside from two large spikes in engagement — one on election day, and one on May 30, 2023. This spike was largely in response to the following tweet in reference to the York Catholic District School Board’s (YCDSB) decision to not fly the pride flag at its Catholic education centre:

Tweet: May 30, 2023  @OliviaChow

Flying the Pride flag says to 2SLGBTQ+ students: you are welcome here.

Everyone should feel safe at public schools.

YCDSB has made a decision to leave room for homophobia and transphobia—it’s shameful and doesn’t represent the majority of people.
Eleven percent of all abusive tweets Chow received were on May 30. She received five times her average amount of daily abuse on that day.

May 30 ended up being the second-most abusive day online during the election, only behind election day. Nearly half of the abusive tweets on this day were sent to Chow.

**Olivia Chow’s abusive tweets versus all abusive tweets monitored during the by-election**

Saccoccia also received engagement spikes from his commentary about LGBTQ+ issues. On June 5, Saccoccia tweeted that Toronto drag performances were deliberately attempting to “sexualize” children. Saccoccia received his highest total of abusive tweets in one day on June 5, aside from election day.
Note: Chris Saccocia’s Twitter account was suspended at the time of this report’s publication. As a result some links may be temporarily or permanently unavailable.

He directed anti-LGBTQ+ hate towards fellow candidates via Twitter as well.

Saccoccia also spread transphobic sentiments in debates with Twitter users.

Tweet: May 30, 2023  @chrissaccoccia1

I TOLD YOU. @oliviachow wants to push SOGI and the LGBT agenda on YOUR CHILDREN.

We need to protect them.

Chris Saccoccia for mayor!

Retweet with the #chrissky

And put Chris Saccoccia for mayor in your profile!!!!

#topli #mayor #toronto #family #children #sogi #lgbt

Linked: A screenshot of Olivia Chow’s aforementioned tweet about the York Catholic District School Board

Saccoccia received high volumes of abuse on days when he shared posts promoting conspiracy theories about 15-minute cities, and allegations of voter fraud. But in general, the most significant vectors of online abuse that we measured during this election coalesced around anti-LGBTQ+ sentiment.

Although Saccoccia only received 1.1% of votes, it’s vital to recognize that while he may not have found significant success at the polls, he nonetheless has a significant impact on online discussion spaces. As of publication, months after Chow was elected mayor, Saccoccia still has approximately 50,000 more followers on Twitter than Chow.
Understanding the topics that attract toxicity, the nature of the abuse received, and the motivations behind such discourse are vital to understanding the conditions of work for political candidates — particularly because understanding these working conditions may reveal why our body of elected officials does not reflect the diversity of Canada's populations. Although neither of these candidates identify as LGBTQ+, the rhetoric that they both...
received, and that Saccoccia shared, is a threat to our democratic diversity. LGBTQ+ Canadians who aspire to run for office encounter these abusive, anti-LGBTQ+ messages on the digital campaign trail — it’s a condition of work. Volumes of abuse received (and shared) by municipal candidates are visible to the many Canadians who engage with municipal politics online. This sends a powerful message about who is or is not welcome in online civic discussions, and in turn may dissuade LGBTQ+ candidates from running for local office, out of fear of receiving hate or facing threats or violence.

Although LGBTQ+ rights were not a topic of particular debate in this mayoral election, some of the largest influxes of engagement and abuse on Twitter concerned this topic. This is a prime example of how online hate and abuse directed at marginalized communities threaten the democratic participation of groups who have historically been, and continue to be, underrepresented in our political systems. Understanding the nuances of the receiving and sharing of abusive content by municipal candidates can illuminate significant barriers to representation and inclusion affecting our city councils, as well as other Canadian legislative bodies.
Who Gets a Platform?
Media Exposure and Online Engagement

Chloe Brown and Anthony Furey were among the most successful mayoral candidates, but as political outsiders, they faced barriers breaking into media opportunities.

In an election with 102 candidates, how do we collectively begin to define and decide who are “front-runners” or “serious candidates” and separate them from the rest? It’s a messy process that is not always equitable. In this particularly stacked election, our findings suggest that media exposure played an important role in shaping online conversations as well as election results. Debate opportunities, profiles in major print media, and television features attracted increased engagement online, but with this often came increased volumes of abuse.

Chloe Brown, a candidate who was not identified as a “front-runner” and therefore did not receive substantial media exposure, attracted significant online engagement. Much of this engagement was abuse free, signalling the potential for healthy civic conversations on municipal issues online. At the same time, this substantive digital engagement did not then translate into greater media opportunities, or stronger election results. Even though Brown cultivated a supportive voter base over the last two municipal elections, her lack of legacy media exposure likely prevented her from reaching wider audiences and competing at the same level as front-running candidates. Her experience indicates the need for further inquiry into how front-runners are decided, the pre-existing financial and social capital required for municipal political success, and the relationship between online engagement, abuse, and increased media exposure.
The 2022 municipal election

In the 2022 Toronto municipal election, policy analyst and activist Chloe Brown placed third in the mayoral race. Brown, then running on a campaign budget of just over $7,000, received 6% of the vote, only behind then-incumbent Mayor John Tory and urbanist Gil Penalosa, whose campaign expenses totaled nearly $2 million and over $300,000, respectively.

2022 Toronto mayoral election voting results, by votes received by candidate

Chloe Brown was “Chloe-Marie Brown” on the 2022 ballot.

When Tory stepped down as mayor and Penalosa decided not to run again (he put his support behind Olivia Chow), Brown became the most successful candidate from the most recent mayoral race to run in the by-election. Despite this, she was not offered major exposure opportunities, such as debate opportunities and legacy media candidate profiles. Nevertheless, she won seventh place in the competitive by-election, with 18,831 votes or 3% of all voters.

Legacy candidates

Ultimately, of the top eight performing candidates in this election, only two (Anthony Furey and Brown) had not previously held some form of political office.
City Councillor Brad Bradford was afforded a very different level of exposure than Brown during the election. Bradford is a councillor for Ward 19, and has been in that role since 2018. He was invited to every legacy media debate opportunity, and attended 12 out of the 14 debates that we tracked. He was also profiled by major media outlets alongside other candidates who were polling much higher in opinion polls, and throughout the election was framed as a front-runner, one of the top candidates to watch.

Brown finished in seventh place with 18,831 votes, and Bradford finished in eighth place with 9,254 votes, less than half Brown's total. We don’t draw this comparison between Bradford and Brown to suggest Bradford should not have been included in these aforementioned opportunities, but rather to ask the question: if Bradford received such consistent public profiling, why didn’t Brown? If placing third in the last mayoral race won’t get you into the mainstream election conversation, what will?

**Legacy media legitimization**

Debates, events, and media opportunities influence public opinion and voter engagement. They are one of the key ways that the general public can learn about candidates’ platforms. While it is clearly not feasible to invite 102 candidates to a debate, or feature them all substantively in media coverage, we need to understand how front-running candidates are established, why they are offered certain opportunities, and if these processes are equitable and reflect all demographics of voters.

Brown was left out of candidate profiles published by legacy news outlets such as the Toronto Star, CBC News, The Globe and Mail, CTV News, and CP24, and was not included in the Toronto Star’s Vote Compass initiative. Brown’s exclusion from these outlets likely significantly limited the public’s knowledge of her platform and candidacy. In articles published by the Toronto Star between May 13 and June 26, 2023, Brown is mentioned in 19 of them. Anthony Furey is mentioned in 50. The other six of the top eight mayoral candidates were each mentioned in over 113 or more different articles.
Furey was included in only one of the aforementioned media profiles but as the election progressed, he received more media exposure. Furey, unlike Brown, had the benefit of having a comparatively larger public profile prior to politics, as he was a Toronto Sun columnist and radio host for AM640 Toronto. Furey’s media connections may have helped him access exposure opportunities later in the election period, and help legitimize him as a candidate.

Debates are another form of media exposure that can also legitimize and grant a candidate exposure. Our federal and Ontario election SAMbot reports have shown that major debates have coincided with some of the highest engagement on social media, suggesting the importance of debates in spurring online discussion and awareness of candidate’s policy platforms — and that exclusion from such events could impact online and offline engagement. We often consider digital and physical worlds as separate spheres, but what occurs both on and offline are part of one collective civic dialogue.

Out of 14 debates, Brown was present at three (hosted by Operation Black Vote Canada, the Canadian Association of Retired Persons with Zoomer Radio, and Now Toronto), none of which were hosted by what we would identify as legacy media outlets. Five debates were either hosted, cohosted, or broadcast by legacy media outlets, those outlets being CityNews, TVO, the Toronto Star, CBC, and CP24. All five of these debates used recent public opinion polling data to decide which candidates would be invited to participate; Brown was not invited to any of these five legacy media debates.

Brown had the opportunity to debate with front-runners Chow and Saunders only twice, and Bailão once. Of the top eight highest-voted candidates, all candidates participated in between 10-14 debates, aside from Furey (four) and Brown (three).

Similar to Brown, Furey was not included in debates early on in the election. However, he was invited to the last legacy media debate hosted by CP24 and Newstalk 1010 on June 15 because his polling numbers had increased. Legacy media’s dependence on using opinion polling data to decide which candidates are invited to major debates can be problematic — relying on only polling data can restrict outsider candidates like Furey and Brown from reaching wider
audiences, and modern polling data collection methods have been shown to be restrictive, and potentially not representative of many demographics of voters.

Toronto has a vibrant local media scene, with outlets like The Local, The Green Line, Now Toronto and Spacing covering local Toronto politics. These outlets are vital, and our focus on legacy media publications isn’t intended to invalidate their contributions. However, legacy media organizations have massive reach and power across multiple mediums, and can reach large audiences of diverse demographics to a greater extent, which is why their publications and behaviour are of such significant importance during an election.

Six of the top eight candidates (Bailão, Bradford, Chow, Hunter, Matlow, and Saunders) were invited to all five debates we would consider to be hosted in part or broadcasted by legacy media outlets. These six candidates took part in all five debates, except for Bradford, who did not attend the June 6 CBC debate due to the birth of his child.
Anthony Furey’s polling results continued to improve after he was included in the June 15 debate, as did his Twitter engagement. While other candidates’ online engagement held consistent or rose steadily, Furey’s engagement reached sudden new heights compared to his earlier engagement statistics. In the final four days of the election, Furey had the second- or third-highest engagement on Twitter among all candidates each day. From May 13 to June 14, Furey was among the top three-most engaged with candidates of the day 21% of the time; from June 15 to June 26, it was 50% of the time.
Furey’s Twitter engagement rose steadily and sharply after June 15, which coincides with his inclusion in the CP24 hosted debate, and higher polling numbers. Brown’s engagement, however, remained mostly consistent across the entire election.

Furey’s increase in Twitter engagement, improved performance in polling results, and appearance at the June 15 debate were all roughly correlated, suggesting the potential power of being legitimized as a candidate by legacy media opportunities.
Meanwhile, Brown’s engagement stayed fairly consistent across the course of the election, compared to other candidates. Interestingly, of the top nine performing candidates in the election, Brown had the lowest volume of abuse, only receiving 19 abusive tweets, and the lowest proportion of abuse among them by a significant margin, with 0.6% of tweets being abusive. Comparatively, she didn’t have significantly lower amounts of online engagement than other candidates (she received more tweets, for example, than sixth-place candidate Mitzie Hunter), yet her engagement was largely abuse free, in comparison to other candidates.

### Percentage of abusive tweets

<table>
<thead>
<tr>
<th>Candidate</th>
<th>Percentage of tweets that were abusive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chloe Brown</td>
<td>0.62%</td>
</tr>
<tr>
<td>Josh Matlow</td>
<td>1.46%</td>
</tr>
<tr>
<td>Mitzie Hunter</td>
<td>1.75%</td>
</tr>
<tr>
<td>Ana Bailão</td>
<td>1.76%</td>
</tr>
<tr>
<td>Anthony Furey</td>
<td>2.44%</td>
</tr>
<tr>
<td>Brad Bradford</td>
<td>2.60%</td>
</tr>
<tr>
<td>Mark Saunders</td>
<td>2.76%</td>
</tr>
<tr>
<td>Olivia Chow</td>
<td>2.83%</td>
</tr>
<tr>
<td>Chris Saccoccia</td>
<td>5.05%</td>
</tr>
</tbody>
</table>
Relatedly, of those nine candidates, Brown had by far the lowest rate of tweets coming from accounts with numerical usernames. While this is not a firm metric to evaluate online discourse, it does signal that tweets received by Brown were more likely to be from actual people who were using public profiles, were long-time Twitter users, and were not bots.

Top nine candidates: Percentage of tweets from users with numerical usernames

<table>
<thead>
<tr>
<th>Candidate</th>
<th>Percentage of tweets from users with numerical usernames</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chloë Brown</td>
<td>1.4%</td>
</tr>
<tr>
<td>Josh Matlow</td>
<td>4.5%</td>
</tr>
<tr>
<td>Mitzie Hunter</td>
<td>4.6%</td>
</tr>
<tr>
<td>Ana Bailão</td>
<td>5%</td>
</tr>
<tr>
<td>Brad Bradford</td>
<td>6.2%</td>
</tr>
<tr>
<td>Mark Saunders</td>
<td>6.2%</td>
</tr>
<tr>
<td>Olivia Chow</td>
<td>8.5%</td>
</tr>
<tr>
<td>Anthony Furey</td>
<td>9.2%</td>
</tr>
<tr>
<td>Chris Saccoccia</td>
<td>12%</td>
</tr>
<tr>
<td>Average across all candidates</td>
<td>8.3%</td>
</tr>
</tbody>
</table>
We identify a username as being a “numerical username” if there are five or more numbers present at the end of a username (e.g. torontopoliticsfan45839). Accounts with numerical suffixes like this may be users who are trying to remain anonymous, are new, have recently signed up for Twitter (maybe because they’re new to the platform, or maybe because their account has been recently banned from Twitter and they have created a new one in response), are posting from a “alternative” or “burner” account, or are bot accounts that have been generated automatically or en masse. While having a numerical username is not necessarily evidence of a bot, users with nefarious or abusive intent or bots tend to use numerical usernames.

Brown’s low levels of abuse and amount of replies from numerical accounts may have permitted more positive and constructive discussion in her Twitter replies. However, at the same time, this space for more positive civic dialogue may be correlated with Brown receiving comparatively lower exposure as a candidate.
Fiscal efficiency

Brown spent just over $54,000 on her campaign, averaging about $2.87 spent per vote received. Among the top eight candidates, Brown’s campaign was the most fiscally efficient — four to twenty-nine times more efficient than candidates who had similar election results.

Campaign expenses by candidate (among top eight candidates)
Fiscal efficiency is a positive thing, but for candidates like Brown, it’s also a sign of unequal access to political capital (something Brown herself has discussed). Candidates with more established relationships with well-connected donors can more easily raise funds early on in an election, thus giving them more opportunities to hire staff, develop and purchase advertising materials, and host events, which in turn helps legitimize them as candidates. For outsider candidates like Brown, competing against that political capital in the arena of campaign donations adds another challenge to running a competitive race in a municipal election.

Exploring media exposure and online engagement in this by-election reveals an interesting dynamic between the two; through Brown, we saw that a candidate may attract online engagement despite not receiving substantial media exposure, and that civic dialogue on the digital campaign trail is not always shaped by high levels of abuse. While this is an encouraging case study of the potential for healthy municipal civic dialogue online, it is important to
note that this digital engagement did not then open up more substantive media opportunities for Brown, and her online engagement did not grow over the course of the election (as Furey’s did).

Understanding the relationship between online engagement, media exposure, and the identification of “front-runner” candidates is crucial if we want to support a more accessible, competitive, and diverse democracy. As it stands, candidates who are political outsiders and do not have pre-existing political networks, wealth, and media connections, are at a serious disadvantage in stacked elections like the Toronto by-election. To support a more diverse and representative cohort of municipal politicians, we need to seriously consider how “front-runner” candidates are selected — and possible electoral reform opportunities to facilitate the campaigns of candidates who have comparatively fewer financial resources, and are not already established elected officials with long careers.
Does Online Engagement Mean Higher Electoral Success?

Mayoral runner-up Ana Bailão proved that offline success didn’t necessarily require high online engagement.

We often assume that online engagement is strongly related to electoral wins, given how much time many of us spend online. But interestingly, according to our SAMbot data, impressive electoral showings do not require high online engagement. For candidates who already hold significant political capital, engaging in discussions online may not be as important as it is for candidates who do not have equivalent resources and networks.

Though Ana Bailão placed a close second in the 2023 Toronto mayoral by-election (she received 32% of the vote, while election winner Olivia Chow received 37%), Bailão didn’t draw much engagement on Twitter, particularly compared to her opponents. Chow had more than four times the engagement on Twitter than Bailão, and third-place candidate Mark Saunders had nearly three times as much engagement as Bailão.

Chow, Bailao, and Saunders’s by-election voting results compared

![Bar chart showing voting results for Chow, Bailao, and Saunders]
Saunders and Bailão shared some similarities — both formerly held significant positions in Toronto (Saunders served as the chief of police and Bailão as the deputy mayor), both were endorsed by major Toronto political figures (Saunders was endorsed by Ontario Premier and former Toronto City Councillor Doug Ford, and Bailão by outgoing Mayor John Tory, along with numerous current city councillors and MPs). Given that there was no incumbency advantage (the theory that voters are more likely to vote for incumbent, established candidates over new faces) in this election, these endorsements likely had a strong effect on polling. In this election with no incumbents, candidates like Bailão, Saunders, and Chow seemed to benefit from some effects similar to an incumbency advantage due to their previous leadership roles in Toronto and influential public profiles.

Both Bailão and Saunders were framed as key front-runners throughout the by-election as the most likely candidates to beat Chow. Polling results ping-ponged between whether Bailão or Saunders was the public's second choice. If one were to use Twitter engagement as a proxy, however, Saunders would appear to be a significantly more popular candidate.

**Ana Bailão and Mark Saunders: Twitter engagement totals**

<table>
<thead>
<tr>
<th>Candidate</th>
<th>Engagement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mark Saunders</td>
<td>612</td>
</tr>
<tr>
<td>Ana Bailão</td>
<td>7,965</td>
</tr>
<tr>
<td></td>
<td>21,597</td>
</tr>
</tbody>
</table>

Saunders received the third-highest amount of engagement on Twitter of the candidates we monitored. Saunders' peaks in Twitter engagement surrounded the key tenets of his campaign: police funding, safe injection sites and drug use, and bike infrastructure. Saunders' May 26 tweet, criticizing the existence of a bike lane on a high-traffic street, garnered significant engagement on Twitter, his second-largest spike in engagement throughout the entire election.
His largest spike in engagement coincided with a number of tweets regarding volunteer support for Saunders from Doug Ford’s “FordNation” volunteers on July 23.

**Ana BAILÃO and Mark Saunders: Tweets per day**

Bailão’s peaks in Twitter engagement were related to former Mayor John Tory. Two of her largest spikes in engagement coincided with her **May 20 tweet** of a photo of her and Tory at a community event, and a **June 21 tweet** which included a video of Tory formally endorsing Bailão. Her other spikes in engagement coincided with debate clips, graphics sharing her policy agenda and comparing it to Chow’s, and election day.

Whether it was through engaging voters offline, or through using other methods of online engagement, Bailão’s campaign demonstrates that electoral success and online engagement and discussion (at least on Twitter) don’t necessarily correlate. The ground game — the door knocking and in-person events — along with connections and pre-existing relationships continue to be crucial in achieving electoral success.
Buying Attention, On and Offline

Xiao Hua Gong spent a lot on advertising, and though those expenses didn’t translate into success at the polls, it showcased how big campaign budgets alone can reach into communities — sometimes in unexpected ways.

Xiao Hua Gong didn’t come close to being elected mayor of Toronto, but he was able to reach a massive audience (and reach a new generation of voters) through his expensive advertising strategy.

Throwing money at a campaign doesn’t ensure victory or even significant electoral success, but it’s important to consider the advantages that candidates with extensive budgets may have against other candidates who don’t have the same access to cash — and how increased visibility based on advertising can affect the digital campaign trail and electoral outcomes.

To run a successful mayoral campaign, a candidate needs to have time to dedicate to running their campaign, access to the capital needed to get a campaign off the ground, and the connections to successfully fundraise so that they can adequately advertise. In a city the size of Toronto, this requires a substantial amount of capital. Ana Bailão ran the most expensive campaign of any candidate, spending over $2.1 million on her campaign. Three other candidates (Chow, Matlow, and Saunders) spent around or over $1 million each, and eight candidates spent over $250,000 each. Having the social and financial capital to run a campaign is vital to success in an election like this one, which leaves long-time political figures in much more advantageous positions than newer candidates, as they can leverage their existing public image and donor networks.

But attention, including social media attention, can also be bought, as fringe candidate Xiao Hua Gong proved in this election.
Gong, who also goes by Edward Gong, is a business and media mogul who ran in the Toronto by-election, but is perhaps most known for his legal battles. After being investigated for running a pyramid scheme in 2021, Gong forfeited over $68 million to the New Zealand government, the largest forfeiture in the country's history. At the time of publication, he is suing the Ontario Securities Commission.

On the afternoon of election day, CIVIX, a non-profit dedicated to strengthening democracy through civic education, held a youth vote, where elementary and secondary students in Toronto cast a mock vote for mayor. Just as in the actual election, Olivia Chow came first with 23.4% of the vote. But the runner-up of the youth vote differed wildly from the real outcome — in close second was Gong, who received a whopping 21.1% of the vote.

Gong didn’t perform nearly as well in the actual election. He actually received a similar number of votes in the mock student vote (which had a total 11,934 counted ballots) as he did in the actual election (over 700,000 votes cast). Gong received just over 2,500 votes in the student vote, while in the actual election, Gong received 2,983 votes, amounting to 0.4% of all ballots.

His limited success in the election aside, this fringe candidate permeated the consciousness of Toronto’s youth — no small feat. He did this with a massive advertising budget; his name, face, and the pledge that he was “[h]ere to rescue Toronto” were emblazoned across his many campaign signs, alongside billboards, bus ads, and even a spot on a screen at Yonge-Dundas Square downtown.

From the ground in Toronto, it was impossible to miss Gong’s campaign. He wasn’t included in major debates and most Torontonian voters probably couldn’t describe his policy agenda, but just looking at visibility, one could have assumed that he was a front-runner based on his massive advertising campaign.
The overabundance of Gong-related advertising in the physical realm led to the spread of jokes and memes online. Toronto youth seemed to enjoy the absurdity of how prevalent Gong’s ads and image were, leading many online to share photos posing with Gong’s signs, make jokes about Gong and his campaign, and even create their own advertising material.

One piece of youth-created advertising that Gong shared on social media (via @gong4mayor on Instagram)

Gong’s fundraising success for his campaign was irregular. Most of his donors gave the maximum donation amount ($2,500) yet Gong reportedly spent $0 on fundraising activities (Bailão spent $420,000 on fundraising, for reference). Gong spent over $120,000 on signs, and about $400,000 on other advertising. His total campaign expenses were just shy of $700,000 (the sixth-most expensive campaign among candidates with reported finances as of January 2024), leaving him having spent a very inefficient $233.67 per vote.
Dollar per vote by candidate (among top eight candidates and Gong)
Nonetheless, Gong’s massive advertising budget made his name and image so ubiquitous that Toronto youth overwhelmingly recognized him as a candidate. Gong’s campaign was far from a success, but his example demonstrates that if candidates put a huge amount of money into advertising, they can infiltrate the public’s consciousness.

While memes about Gong were popular online, as a candidate, he only received 82 tweets during the entire election period, which means he actually attracted less online engagement than the majority of candidates we monitored. Gong was able to “buy” significant attention via his iconic advertising campaign, but this engagement was only surface level — few people actually attempted to interact with Gong online. Torontonians were, by and large, not rallying around Gong as a leadership figure for his policies and performance — his virality was centred around sharing laughs about his ads.

After the election, Gong insisted on a recount of the mayoral results, citing the discrepancy between the outcome of the CIVIX youth vote and the actual election as a reason to question the election’s credibility. The online virality he achieved via his advertisements, and his success in the Toronto youth vote, suggests the need for further exploration of the relationship between visibility, virality, and the civic engagement of youth. But it also demonstrates that a huge campaign budget isn’t enough to see significant, meaningful electoral engagement online. Candidates need to genuinely engage with their communities beyond putting up hundreds of advertisements, and need access to wide-reaching social capital to be part of serious policy discussions and attract substantive civic conversations beyond jokes and memes.
Conclusion

Our analysis tells us that online abuse is significant in big-city mayoral by-elections, just as it has been in recent Canadian municipal, provincial, and federal elections. We’re continuing to see topics related to LGBTQ+ rights attracting higher levels of both abuse and engagement online. Abusive rhetoric is mostly directed at the most popular candidates, and a significant portion of abusive tweets come from a handful of accounts. Online abuse is prevalent, but more concentrated around certain figures and topics than is properly understood, and this requires further research.

Evaluating Twitter engagement alongside election outcomes informs our perspective on how our municipal elections function. We see that candidates without much political capital but who have notable social or financial capital can make a significant impression on the electorate with advertising alone (Gong). “Outsider” candidates with limited political or social or financial capital can be barred from institutional opportunities like debates and media profiles (Brown), but outsider candidates with more connections can eventually enter into those institutional spaces, and see dividends in both online engagement and voter turnout because of it (Furey). Ultimately, having access to both significant political and financial or social capital can ensure greater success at the polls, even if a candidate’s online engagement is much lower than that of fellow candidates (Bailão). These findings help us understand how issues of equity apply to big-city municipal elections, and the significant advantages certain candidates have, based on their political, social, or fiscal backgrounds.

We share these stories and experiences from the digital campaign trail to illustrate wider trends and experiences that candidates face in Canadian politics. Political candidates face difficult working conditions while running for office in the forms of online and offline abuse. This can be particularly difficult for equity-deserving Canadians to navigate as they may face increased abuse, threats, or violence based on their identity, which can limit the communities of people who feel comfortable running for office. These conditions need to be considered in tandem with the barriers created by the financial requirement of running a successful campaign for office, and the way political experience and
social capital may limit new candidates from throwing their hat in the ring. We need to consider how all these factors shape participation and representation in our local democracies. A stronger understanding of the intertwined nature of the digital and physical campaign trail is crucial for building a more robust, participatory culture of municipal politics in Canada.
Methodology

We monitored the 2023 Toronto mayoral by-election for 45 days, from May 13, 2023 at 00:00 ET to June 26, 2023 at 23:59 ET.

We tracked the Twitter mentions of 54 of 102 total mayoral candidates. Candidates that were not tracked did not possess a public or active Twitter account as of the end of the election’s nomination deadline.

Our SAMbot project has tracked abuse in federal, provincial, and municipal races since 2021. However, since data from each election is collected during different time periods, with different lengths, and with different totals of tracked candidates, it is not useful, nor advisable, to compare SAMbot data across elections.

We do not collect data on retweets, as counting the same tweet more than once can distort the analysis. We only evaluate text within a tweet; content such as images, audio, or videos that may spread abuse cannot be evaluated by the machine learning tools that we use.

How do we detect abuse?

SAMbot deployments use machine learning tools — software applications that run automated tasks. Using machine learning allows us to analyze tweets at a massive scale. Through our SAMbot project, we can evaluate millions of tweets for how likely abusive they are. We track all English and French tweets sent to candidates. Each tweet tracked, whether a reply, quote tweet or mention, was analyzed against five abuse categories using a machine learning tool called Perspective API:
<table>
<thead>
<tr>
<th>Abuse category</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxicity</td>
<td>A rude, disrespectful, or unreasonable comment that is likely to make people leave a discussion.</td>
</tr>
<tr>
<td>Insults</td>
<td>Insulting, inflammatory, or negative comment towards a person or a group of people.</td>
</tr>
<tr>
<td>Threats</td>
<td>Describes an intention to inflict pain, injury, or violence against an individual or group.</td>
</tr>
<tr>
<td>Identity attacks</td>
<td>Negative or hateful comments targeting someone because of their identity.</td>
</tr>
<tr>
<td>Sexually explicit</td>
<td>Contains references to sexual acts, body parts, or other lewd content.</td>
</tr>
</tbody>
</table>

Perspective API provides us with a confidence prediction to assess whether a tweet meets an abuse category. When a tweet is evaluated, it’s given a score from 0% to 100% for each category, based on how certain the machine learning model is that the tweet meets that abuse category. If the tweet is assessed as >=70% likely to meet an abuse category, we determine that the tweet has met the criteria. If a tweet meets at least one of the five abuse categories at the >=70% confidence interval, it is counted as an abusive tweet. The abusive tweet category serves to aggregate all tweets that meet at least one abuse category.

**How our SAMbot project is always improving**

In our SAMbot project, we use machine learning models to assess abusive language. These models are ever-evolving, which means that during each deployment, our data is more accurate and informed.

**Please note** that compared to our previous SAMbot deployments, we have evaluated abusive tweets significantly differently in this election.
Our machine learning model makes a confidence prediction to assess whether a tweet should be considered “abusive.” When measuring abuse, our model gives each tweet a score from 0% to 100% for each category, based on how confident it is that the tweet is abusive in nature.

Previously with SAMbot deployments, we used a 51% confidence prediction to evaluate abuse; we have changed to now use a 70% confidence prediction. This change means that our analysis will be more accurate, and that cumulative results will paint a better picture of how abuse is distributed across the entire election and across all candidates.

Simultaneously, this change also means that some nuanced and subtle forms of abusive language may be missed by our machine learning model, and will make it appear at first glance as if there is comparatively less abusive content present, which is not necessarily the case. Machine learning models will never be able to monitor all abusive language across an election, as the subjective nature of what constitutes “abuse” does not permit the possibility of 100% accuracy. This methodological change allows us to more accurately represent how abuse is distributed overall.

We have made this change as part of our ever-evolving intention to strive for more accurate and ethical methodological practices within the field of social media and machine learning research. Using confidence intervals in this way is in line with recommendations for social science research.

This change makes abuse volumes look considerably lower than in previous elections we have tracked (however, SAMbot data should never be compared across elections regardless). Please consider these significant methodological changes while interpreting the data in this report.