

Kentucky Election Analysis

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Introduction

Due to the ongoing COVID-19 pandemic, Kentucky's 2020 primary election was delayed from May 19 to June 23, 2020. The primary featured local, state, and federal races — including a high-profile Democratic Senate primary between Charles Booker and Amy McGrath — with the state implementing many changes to election procedures, including expanding mail-in voting to all eligible voters, allowing early in-person voting by appointment or walk-in, and allowing county clerks to reduce the number of polling locations on Election Day. More details on Kentucky's election policies and readiness can be found in [this Healthy Elections report](#).

Leading up to the election, Kentucky faced particular scrutiny for how it would handle a rapid expansion of mail voting and for its reduction in the number of Election Day polling locations, which critics feared would lead to unreasonable lines and wait times. However, these fears largely didn't materialize, with the exception of Fayette County, where some voters reported waiting [nearly two hours](#).

Although an updated voter file reflecting the 2020 primary will not be made available until September, this report relies on aggregate county-level turnout statistics, press releases, and precinct-level data in Jefferson County to examine the 2020 Kentucky primary with special attention to two items: (1) state-wide turnout and mail voting, including rejected ballots, and (2) turnout in Jefferson County, Kentucky's largest county by population and one of the counties with just one polling location open on Election Day.

Summary of Findings

- Turnout was up significantly in the 2020 primary over 2016, with [over a million ballots cast in 2020](#) in comparison to [fewer than 670,000 ballots in 2016](#).
- [Nearly 75% of 2020 primary voters cast their votes via mailed absentee ballots](#), up from around 2% in previous years.
 - [Based on data provided by the state](#), election officials rejected 32,349 absentee ballots in all, which represented 3.1% of all ballots cast in the election.
 - In Kentucky's two largest counties alone, [Jefferson and Fayette, election officials rejected 15,000 absentee ballots](#), with the most common reasons for rejection being the absence of voter signatures, signature mismatches, and envelopes not being properly sealed.
- In Jefferson County, the Kentucky Exposition Center served as the sole polling location.
 - Despite concerns from several national figures about in-person voting, voting ran smoothly in Jefferson County until the end of the day, when polls were set to close at 6:00 PM; however, many people were still waiting to park outside the Expo Center at that time. In response, Senate candidate [Charles Booker filed a last-minute injunction](#) request to keep the doors of the Expo Center open. The judge granted the injunction to reopen the Expo Center doors until 6:30 PM but denied requests to keep the polls open until 9:00 PM.
 - While it is impossible to draw precise conclusions about turnout from aggregate precinct data, it is important to remember that different neighborhoods may have had different capacities to overcome a change in polling place location. In Jefferson County, for example, precincts that were the most reliant on public transit showed the smallest increase in turnout compared to 2016. Without the voter file, however, and particularly, without information about the mode that voters used to cast their ballots in the primary, we cannot draw strong conclusions about voter behavior changes here.

Analysis of 2020 Primary

A. Statewide Turnout and Mail Voting

To address the impact of the COVID-19 pandemic on election administration, the state made several changes around mail voting for the 2020 primary election. First, on April 24, Governor Andy Beshear issued an [executive order](#) allowing any eligible voter to vote by mail-in ballot. Voters were also able to request their mail-in ballots [online](#), and each registered voter was mailed an informational pamphlet that explained the expansion of mail-in ballots. Absentee ballots included free postage and were required to be postmarked no later than June 23 and received by June 27 to be counted. The period for in-person [early voting was also extended](#).

Turnout was up significantly in the 2020 primary over 2016, with over 1 million ballots cast in 2020 compared to fewer than 670,000 ballots in 2016. Nearly 75% of 2020 primary voters cast their votes via mailed absentee ballots (about 848,000), in a state that normally sees around 2% vote absentee. In addition, [over 110,000 voters cast in-person ballots early](#), and [more than 161,000 people voted in person on Election Day](#).

Absentee Ballot Rejections

With a majority of voting done by mail in 2020, even small percentages of ballot rejections may have a larger effect on outcomes. [Based on ballot rejection data provided by the state](#), election officials rejected 32,349 absentee ballots in all, which translates to about a 4% rejection rate on absentee ballots.

¹

In Kentucky's two most populous counties alone, Jefferson and Fayette, election officials rejected 15,000 absentee ballots, with the most common reasons for rejection being the absence of voter signatures, signature mismatches, and envelopes not being properly sealed. Under Kentucky state law, if an absentee ballot is rejected, voters are not informed and there is no opportunity to cure defects.

Taking a closer look at Jefferson County, Kentucky's largest county by population, there were roughly 8,000 rejected absentee ballots, with nearly half rejected due to a lack of voter signature.

¹ Michael McDonald, "Kentucky Absentee Ballot Rejections," *Medium*, July 29, 2020, <https://medium.com/@ElectProject/kentucky-absentee-ballot-rejections-bad1aacf2452>.

Additionally, over 1,000 ballots were rejected for being delivered too late, over 400 for having a non-matching signature, and around 800 due to a missing signature on the envelope's inner flap.

COMMONWEALTH OF KENTUCKY
STATE BOARD OF ELECTIONS

**NUMBER OF REJECTED ABSENTEE BALLOTS
AND REASONS FOR REJECTED BALLOTS**

County	Election (Primary or General)	Date of Election
JEFFERSON	PRIMARY	JUNE 23, 2020

Reason for Rejection of Absentee Ballot	Number Rejected
NO VOTER SIGNATURE	3848
MISSED DEADLINE - LATE	1178
NON-MATCHING SIGNATURE	431
INNER FLAP MISSING	387
INNER ENVELOPE MISSING	647
INNER FLAP NOT SIGNED	795
MISSING OUTER ENVELOPE	347
RETURNED NOT DELIVERABLE	549
CLERICAL ERROR	28
NO BALLOT IN INNER ENVELOPE	15
OUTER ENVELOPE EMPTY	3
DECEASED	8
DECLINED TO VOTE	3
UNOFFICIAL ENVELOPE	6
NO WITNESS SIGNATURE	3
BALLOTS ONLY	8
DAMAGED COULD NOT COUNT	2
INNER ENVELOPE GLUED TO OUTER ENVELOPE	6
VOTED IN PERSON-RETURNED SPOILED BALLOT	68
PARTY CHANGED	49

For example, signature missing on outer envelope; signature missing on inner flap; inner flap missing; received after 6 PM on election day, etc.

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SBE 33B (9/02)

White – County Clerk
Canary – State Board of Elections

In Fayette county, Kentucky's second largest county by population, the rejection rate was particularly high, representing 8% of the county's 83,000 absentee ballots. Of the [6,000 rejected](#)

[ballots](#), over 2,000 were rejected for not being sealed properly, and over 1,500 were missing the inner envelope flap.

COMMONWEALTH OF KENTUCKY
STATE BOARD OF ELECTIONS

**NUMBER OF REJECTED ABSENTEE BALLOTS
AND REASONS FOR REJECTED BALLOTS**

County	Election (Primary or General)	Date of Election
FAYETTE 34	2020 Primary Election (P)	6/23/2020

Reason for Rejection of Absentee Ballot	Number Rejected
Missed Deadline	619
No Voter Signature	1915
No Witness Signature	2
Non-Matching Signature	7
Envelope Not Sealed	2226
No Resident Address on Envelope	9
Inner Envelope Flap Missing	1572
Inner Envelope Missing	2
Ballot Missing From Envelope	23
Multiple Ballots in One Envelope	6
Other Rejection Reasons:	
Outer Envelope Missing	50
Other Rejection Reasons:	
Voter Assistance Incomplete	5
Other Rejection Reasons:	
FPCA Missing Voter Declaration	1
Other Rejection Reasons:	
Ballot Outside of Inner Envelope	204
Other Rejection Reasons:	
Signed by POA (no POA on file or included)	4
Total Rejections for county	6645

For example, signature missing on outer envelope; signature missing on inner flap; inner flap missing; received after 6 PM on election day, etc.

B. In-person Election Day Voting in Jefferson County

Partially due to the increase in mail-in ballots and early in-person voting, many Kentucky counties chose to greatly reduce the number of polling places open on Election Day. Most counties

only had one in-person polling location available on Election Day, including the state’s most populous counties (Jefferson and Fayette). However, fears that voters would be subjected to unreasonably long lines largely didn’t materialize, with the exception of Fayette County, [where some voters reported waiting nearly two hours](#).

This report takes a closer look at voting patterns by precinct in Jefferson County, where the Kentucky Exposition Center served as the sole polling location. Despite concerns from several national figures about in-person voting, voting ran smoothly in Jefferson County until the end of the day, when polls were set to close at 6:00 PM; however, many people were still waiting to park outside the Expo Center at that time. In response, U.S. Senate candidate Charles Booker filed a last-minute injunction request to keep the doors of the Expo Center open. The judge granted the injunction to reopen the Expo Center doors until 6:30 PM but denied requests to keep the polls open until 9:00 PM.

Precinct Analysis

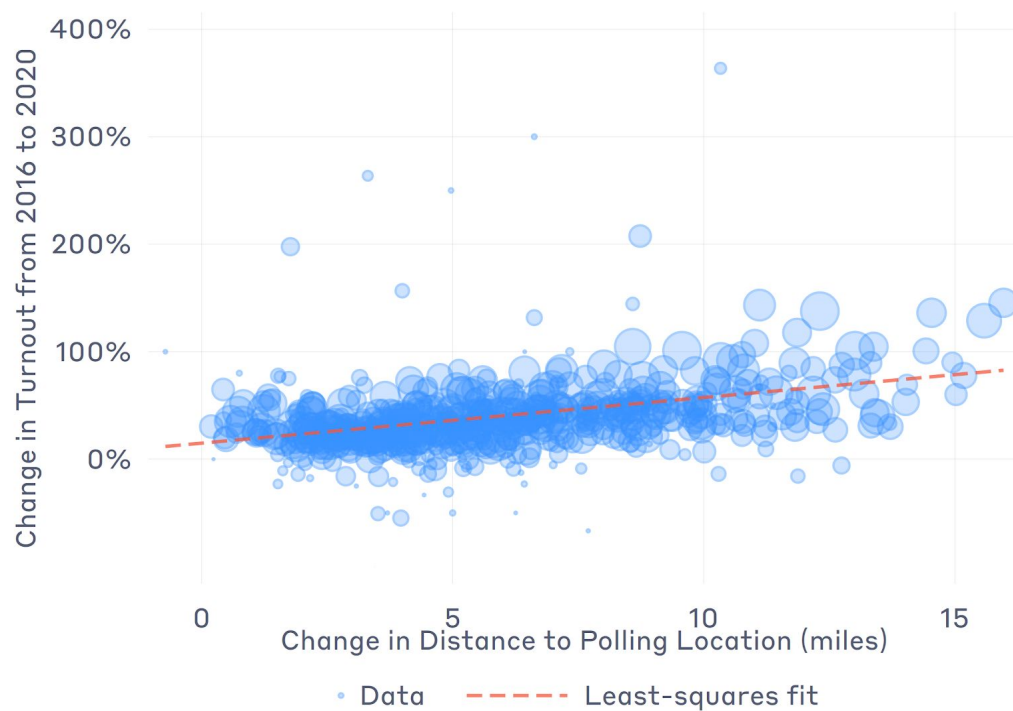
Because an updated voter file is not yet available, this report looks at voter turnout by precinct characteristics, with a focus on race, age, public transit usage, and partisan leanings. It is not possible to draw precise conclusions from this kind of aggregate data, but it can be a starting point in thinking about how different precincts and neighborhoods may have different capacities to overcome changes in the election process, even when overall turnout tells one story.

One concern around reduced in-person voting was that those who might have more difficulty reaching an in-person polling location would simply opt out of voting entirely. An obvious proxy for difficulty in reaching the Expo Center is distance. Because we do not yet have access to an updated voter file, we estimated this quantity by calculating the Euclidean distance from the location of the regular polling place of each precinct in the county to the Expo Center. This can be interpreted as the average increase in distance between where voters live in the precinct and their normal polling place *versus* the distance to the Expo Center. We call this the “distance increase.” The average distance increase (weighted by 2020 turnout)² was 6.14 miles. We then calculated the change in turnout from 2016 to 2020 for each precinct.

The following scatterplot shows the relationship between change in turnout and the distance increase. Note that the relationship is *positive*; that is, precincts further away from the Expo Center

² All of the analysis in this section weights precincts by 2020 turnout.

saw a *greater* increase in turnout than precincts closer by.³ This, of course, is a counter-intuitive finding.



It could be that this counterintuitive finding is the result of geographic factors in the county that result in correlations between distance and either ability to or interest in turning out in 2020. Here, we explore four such factors: race, age, public transit usage, and partisan leanings.

Race

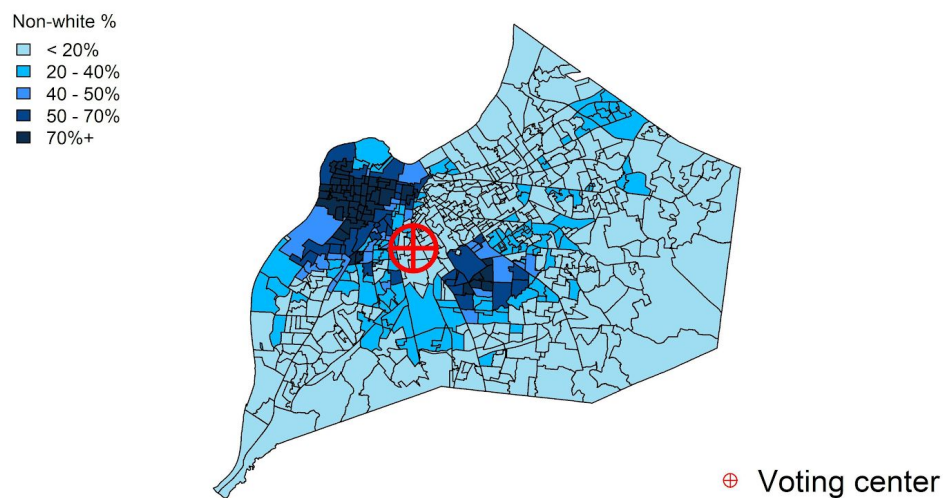
One factor influencing turnout could have been race. On the one hand, the hottest contest on the ballot was the Democratic U.S. Senate primary, which pitted Amy McGrath, a white woman who had been strongly favored in the race, and Charles Booker, a Black state representative from Louisville whose candidacy caught fire in the days leading up to the primary. Any racial dimensions of the nomination contest could have created a surge of turnout, independent of distance from the Expo Center.

³ The Pearson correlation coefficient is .52

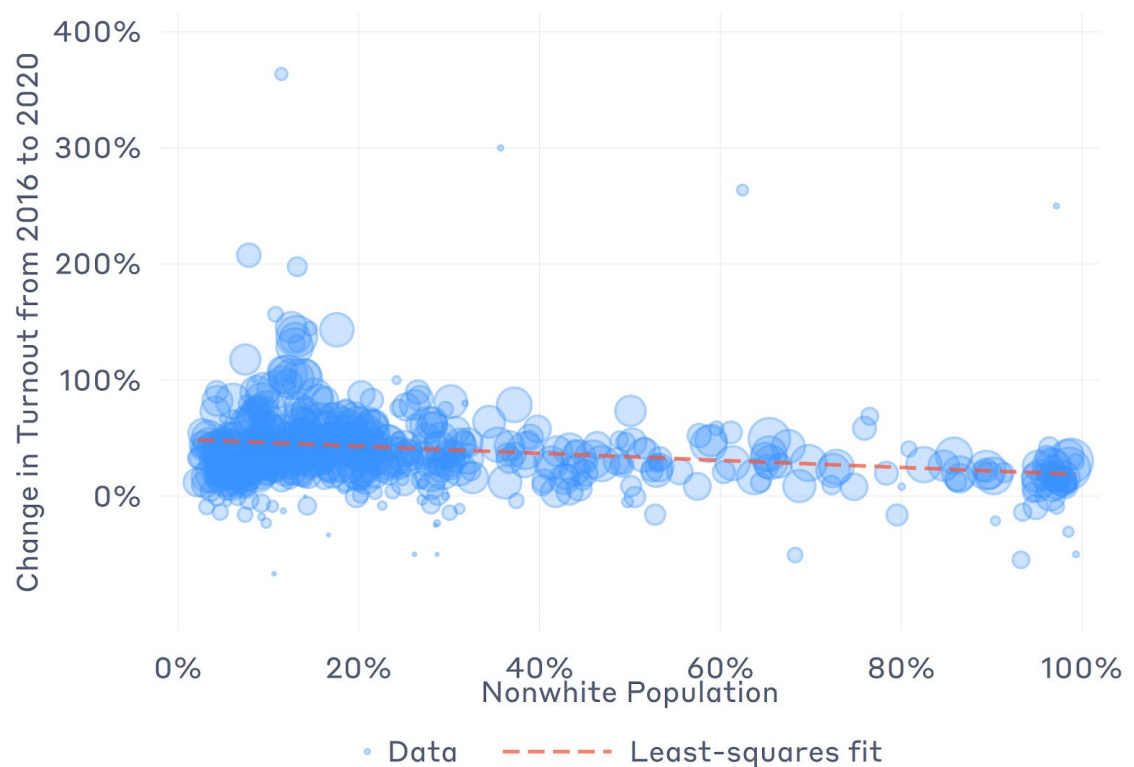
On the other hand, Black residents in Louisville, as in the rest of the country, tend to live in lower-income neighborhoods with access to fewer resources, which would tend to disadvantage turnout from predominantly minority precincts and favor turnout from mostly white precincts.

The map below uses U.S. Census data to show the distribution of communities of color (measured by nonwhite population percentage), in addition to the location of the Expo Center. Note that, on average, the Expo Center was located slightly closer to precincts with high minority populations than to high white populations. (The correlation between distance to the Expo Center and the percent population that is non-white is $-.27$.)

Communities of Color by Precinct



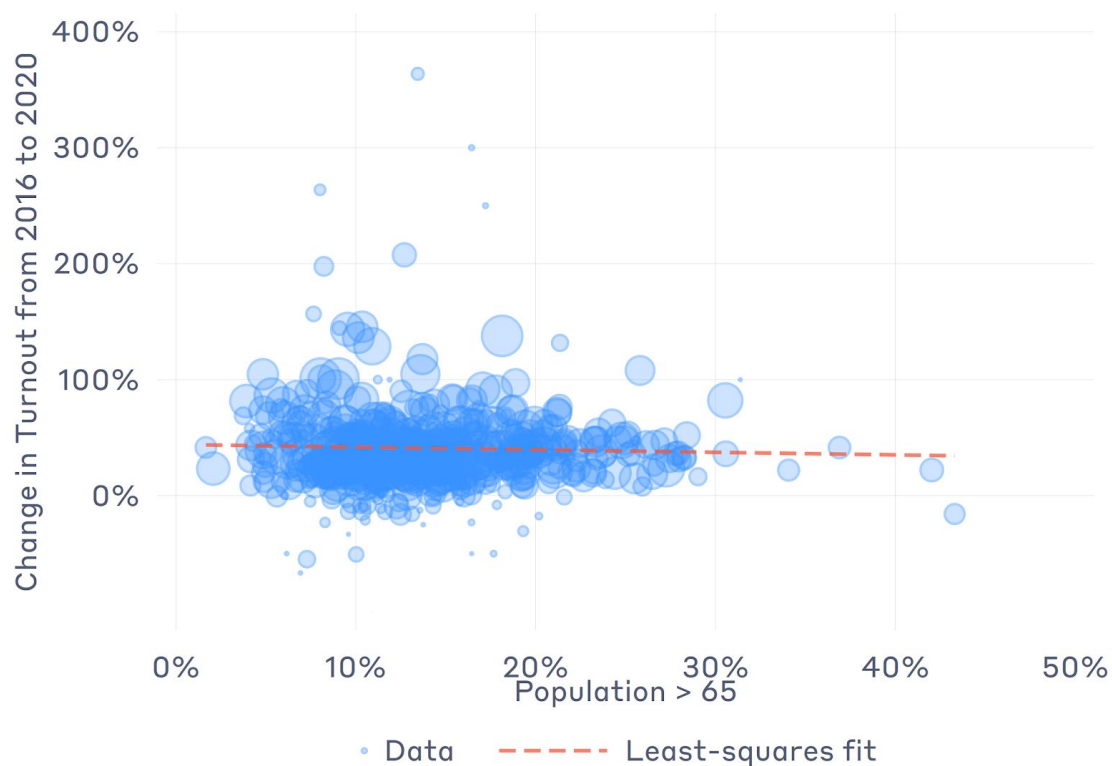
Indeed, as the following figure shows, there is a strong negative relationship between non-white population of a precinct and change in turnout. In other words, precincts with heavily nonwhite populations showed the smallest increase in turnout in the county. Thus, at least preliminarily, it appears that to the degree that race was a factor in turnout changes in Jefferson County, it was more due to SES-related factors, than because of interest in the McGrath-Booker contest.



Age

Another factor is age. On the one hand, other research in this series of reports suggests that turnout in the 2020 primaries, particularly Democratic primaries, was especially strong among older voters. On the other hand, concerns around COVID-19 could have kept seniors away from the polls.

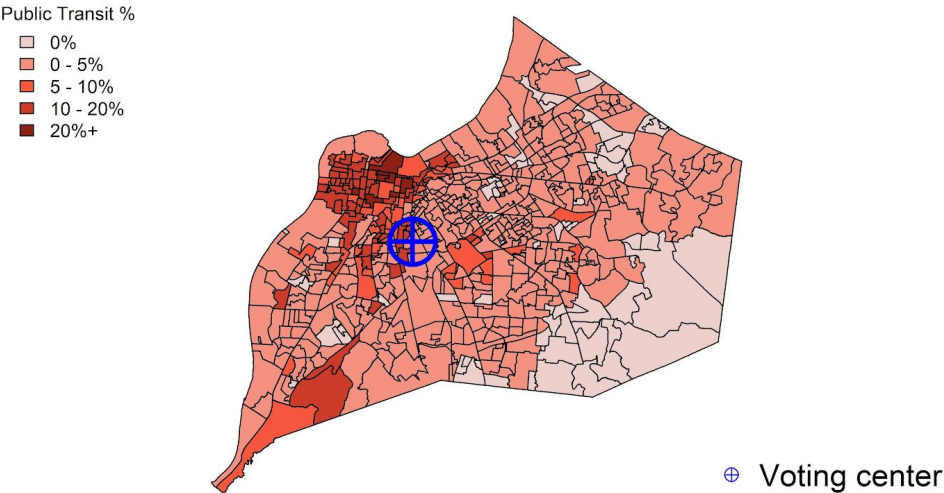
On net, there was a very weak, statistically insignificant negative relationship ($r = -.04$) between the percentage of a precinct's population that was over 65 and change in turnout.



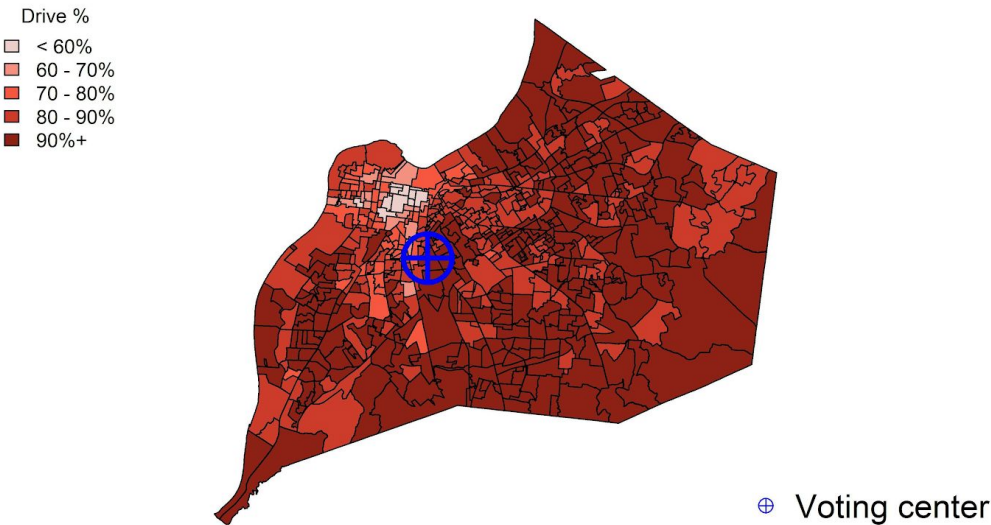
Public transit use

Again, though it isn't possible to rely heavily on conclusions from this data, it might be illustrative to look at which precincts rely most on public transit. The maps below use data from the U.S. Census to represent the percentage of individuals who regularly commute by public transit or by car, truck, or van in each precinct. Many of the precincts that rely most heavily on mass transit are clustered around the periphery of downtown, closer than many of the precincts where nearly all households reported commuting by car, truck, or van. Thus, it could be that although predominantly minority areas of the county were relatively closer to the Expo Center than predominantly white areas, the greater availability of cars in the predominantly white areas may have nonetheless made it more convenient for white residents to travel to the Expo Center to vote.

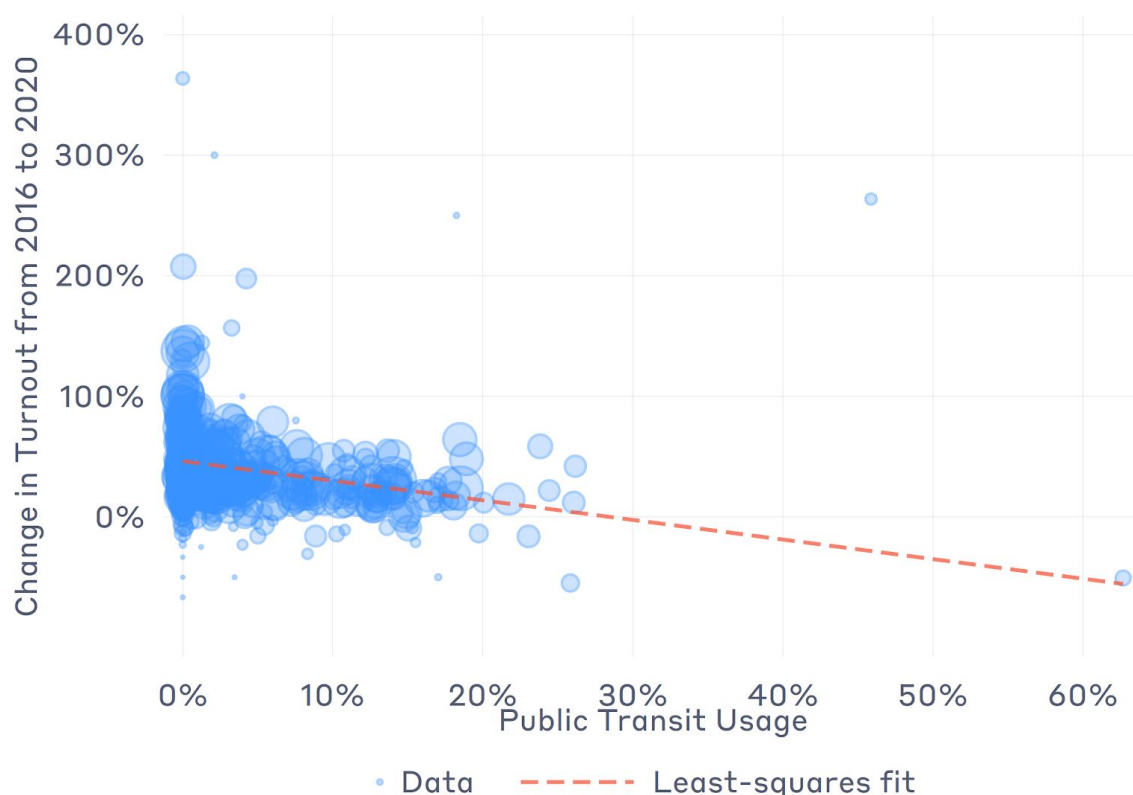
Public Transit Commuting by Precinct



Car Commuting by Precinct



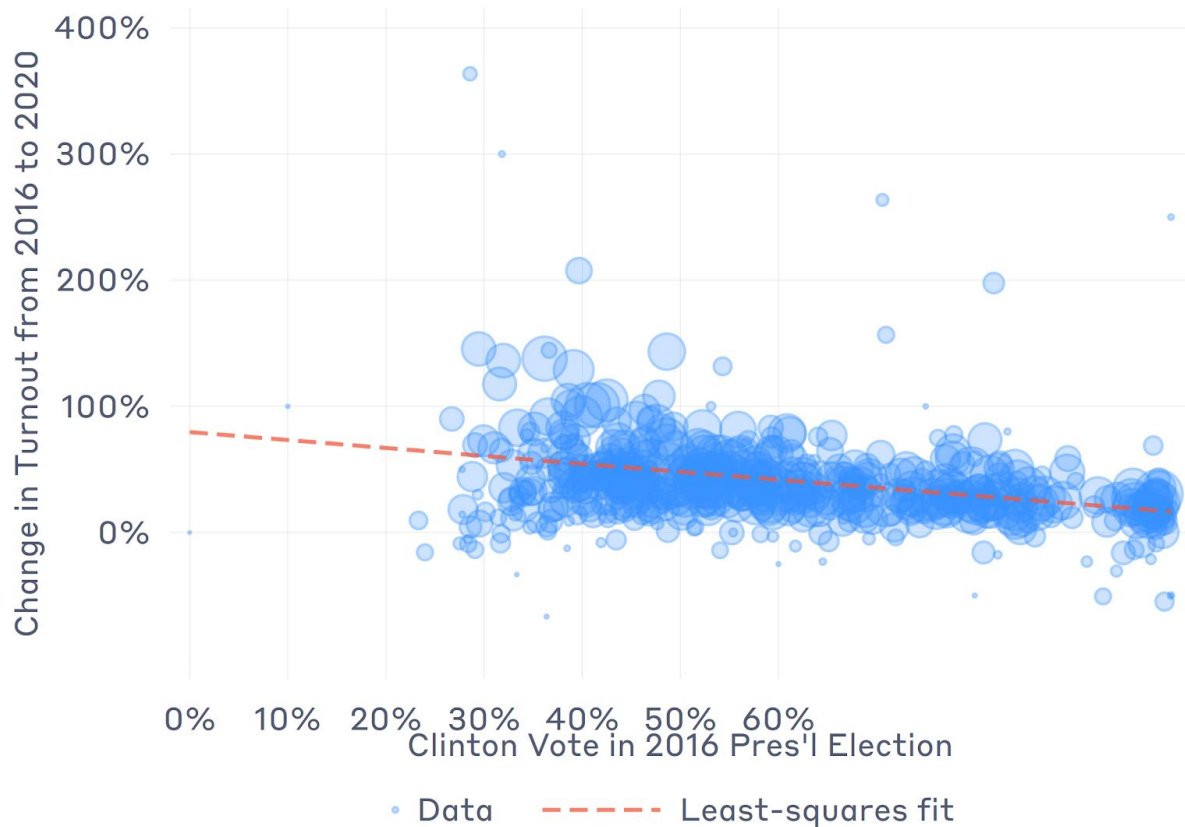
Unsurprisingly, as the scatterplot below shows, precincts that were the most reliant on public transit showed the smallest increase in turnout compared to 2016. (The regression line shown in the scatterplot is virtually unchanged if the outlier observation, at nearly 60% public transit usage, is omitted.)



Partisan Leanings

Finally, there is the matter of partisan leanings. The 2016 primary had featured contested presidential nomination fights within each of the two major parties. In 2020, by the time the primary rolled around to Kentucky, Joseph Biden was the presumptive Democratic nominee and, of course, President Trump was virtually unopposed for the Republican nomination. On the other hand, although the incumbent U.S. senator, Mitch McConnell, had six opponents, he was renominated with 83% of the vote. In contrast, the U.S. Senate nomination contest for the Democrats was fiercely competitive by primary day. Therefore, we might suppose that turnout change would have been greater in heavily Democratic parts of the county than in (relatively) heavily Republican areas.

To measure partisan leanings, we use the two-party vote share for Hillary Clinton in the 2016 presidential election. The following scatterplot shows the relationship between turnout and Clinton vote share, which shows the exact opposite of the expectations articulated in the previous paragraph. It was the more heavily Republican parts of the county that saw a greater increase in turnout than the heavily Democratic.



Summary of Jefferson County Precinct Analysis

Of course, all of the factors explored here are highly correlated. Therefore, it is impossible to adjudicate between the various factors without some sort of multivariate statistical analysis. We report the results of one such statistical analysis in the Appendix. Our findings there suggest that among a cluster of precincts normally assigned to vote in the same (consolidated) voting location, and taking interactions with race, age, public transit usage, and partisan leaning into account, voters in the precinct living the farthest from the Expo Center were less likely to vote in the primary.

There is one final caveat to be offered here. The initial simple analysis of overall turnout in the 2016 and 2020 primaries found, at least preliminarily, that turnout increased the most in precincts that were far from the Expo Center. One final explanation for this anomalous finding is that turnout was greater in these precincts because of greater reliance on absentee ballots in these precincts. Without the voter file, and particularly, without information about the mode that voters used to cast their ballots in the primary, we cannot explore this hypothesis.

Conclusion

Kentucky took a number of steps to account for holding its primary election during the COVID-19 pandemic, including delaying the election from May 19 to June 23, expanding mail-in voting to all eligible voters, allowing early in-person voting by appointment or walk-in, and allowing county clerks to reduce the number of polling locations on Election Day. Two of the main concerns surrounding Kentucky's election were how the state would handle a rapid expansion of mail voting and how the reduction of Election Day polling locations might lead to unreasonable lines and voter suppression.

However, despite these concerns, Kentucky's primary proceeded relatively smoothly. Turnout was up significantly over 2016, with over a million ballots cast in 2020 in comparison to fewer than 670,000 ballots in 2016. Nearly 75% of 2020 primary voters cast their votes via mailed absentee ballots, up from 2% in previous years. The expanded use of mail-in ballots and early voting contributed to keeping lines manageable on Election Day for most voters, with the exception of problem areas like Fayette County.

In an election year when the large majority of voting will be done by mail, even small percentages of mail-in ballot rejections may have a significant effect on outcomes. This report examined ballot rejection data provided by the state, [finding a 4% rejection rate of mail-in ballots](#), with election officials rejecting 15,000 absentee ballots in Kentucky's two most populous counties alone, Jefferson and Fayette.

A further look into precinct turnout in Jefferson County also demonstrated that different precincts and neighborhoods may have different capacities to overcome changes in the election process, even when overall turnout tells one story. It is important to consider all the factors involved in making elections safe and accessible for all parties.

When it comes to preparing for November, Kentucky's challenge will be to further expand a secure and robust mail-in voting system to account for an even larger volume of voters in the

presidential election — with attention to shrinking a high mail-in ballot rejection rate — while preserving safe in-person options that allow voters to cast their ballots in a reasonable timeframe.

Resources

- [Kentucky Election Policies and Readiness Healthy Elections report](#)
- [Absentee ballot rejections](#)

Appendix

Here, we report the results of multivariate analysis to accompany the bivariate analysis reported in the body of the text. We report the results of analysis with and without fixed effects. In the fixed effects analysis, the fixed effects account for the *original* polling place that would have served voters in a precinct had in-person voting not been consolidated to the Expo Center in Jefferson County. This can be interpreted as accounting for turnout changes separately for voters of each of the precincts that would have been assigned to a single consolidated precinct under a more typical election.

The most notable, and substantively important, pattern in the table below is that the variable measuring change in polling place distance changes sign in the presence of fixed effects. This suggests that among a cluster of precincts that were normally assigned to vote in the same (consolidated) voting location, voters in the precinct living the farthest from the Expo Center would be less likely to turnout to vote in the primary. The sensitivity of the results of this analysis to the presence of fixed effects underscores the preliminary nature of this aggregate-level analysis, and underscores the importance of updating it in the future, once the voter file has been updated.

Change in polling place distance (miles)	3.38 (0.49)	-7.41 (3.46)
Non-white percent	-0.10 (0.06)	0.05 (0.22)
Over 65 percent	-0.58 (0.18)	-0.62 (0.26)
Public transit percent	-0.15 (0.34)	-0.54 (0.48)
Clinton two-party vote share	-0.17 (0.09)	-0.13 (-.27)
N	593	593
R ²	.30	.64
Fixed effects	No	Yes

Note: Observations weighted by 2020 primary turnout. Robust standard errors in parentheses.