

November 2011 preliminary RCV analysis

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We present here an initial RCV analysis of the 2011 San Francisco Sheriff, District Attorney, and Mayor race. For each race, we examine the first choice by second choice voting patterns, the frequency of slates, and the number of times a candidate is on a ballot, which is useful measure of candidate performance. We also show maps for each race's winner, with a few ethnic and Progressive Voter Index (PVI) correlations when noteworthy.

For the first time, we are also able to present **cross-contest** analyses at the individual voter level. The city's ballot images maintain consistent voter identification numbers. This facilitates associations across contests, so shown here are first choice crosstabs for each of the major races with some political and bullet-voting analyses.

This paper focuses primarily on political outcomes rather than indicators of voters' facility with ranked choice voting. The McCarthy Center will present research in early 2012 looking at RCV trends at a highly detailed level.

Our preliminary analysis indicates that:

- Ed Lee won the mayoralty with a broad coalition of Chinese and moderate voters. In addition to having a 12-point lead in voters' first choice ballots, he scored a sizeable number of second and third choice votes;
- There were strong Chinese-affinity voting patterns in the ballot slates
- John Avalos and David Onek, captured the progressive base but were largely unable to build a broader citywide coalition;
- Although she came in third, Sharmin Bock was better positioned than Onek to defeat the frontrunner, George Gascon, due to her higher proportion of second and third choice votes: she was narrowly behind Gascon in the total number of ballots on which she appeared. Bock and Mirkarimi were similar in that they appealed to voters who didn't necessarily put them first;
- Ross Mirkarimi did better in gaining votes across the city than other liberal candidates, but his support still remained highly correlated with the PVI;
- Though there was some synergy between the moderate candidates in the race for Sheriff, moderate voters ultimately did not cast a sufficient number of Miyamoto-Cunnie or Cunnie-Miyamoto ballots to affect the outcome of the election;
- There was strong Chinese-affinity voting patterns apparent in the ballot slates for mayor;

- The progressive first-choice slate of Avalos-Onek-Mirkarimi was the most common slate among voters (11%).
- Around 9% of voters only chose one candidate in each of the three races. This voting pattern was more common in the southeastern neighborhoods.

Methodology

For this report, we use the November 20, 2011 ballot image data. These include approximately 98% of the final statement of vote ballots and we anticipate no changes in comparison to the final results. Demographics are taken from the 2010 census, and PVI data are from the 2011 PVI report¹. Most of the analyses presented here are voter-level, taken directly from the ballot image data. However, where there are precinct analyses, like with PVI, ecological fallacy issues exist as always.

The data reported herein are 'scrubbed', meaning that many voter errors (such as a voter casting no first place vote but having a second vote, or voting for the same candidate three times) have been resolved consistent with the tallying of these votes. This is different than reports of previous years. For instance, if someone votes for a candidate three times, he is simply reported as supporting the candidate and no one else (bullet voting). Please contact us for questions about the data. The percentages and totals shown here might be slightly different from other reports, though any discrepancies should be minimal and the overall impact on the final results negligible.

Voter ID was consistent across all three races and was used to merge data from these three races.² Accordingly, we know how the same voter voted in the three candidate races.

Sheriff

District 5 Supervisor Ross Mirkarimi defeated Sheriff's Deputy Paul Miyamoto and former police officer Chris Cunnie in a relatively close open race. Mirkarimi received 38% of the first-choice vote while Cunnie received 28% and Miyamoto received 27%. Mirkarimi was considered the "progressive" candidate in the race, with endorsements from the Bay Guardian, the Democratic Party, and the Harvey Milk Club. Cunnie and Miyamoto split many of the more moderate and law enforcement endorsements. Cunnie entered the race much later than the other two major candidates.

Map 1 shows Mirkarimi's support throughout the city (first choice vote). Figure 1 shows the correlation with the Progressive Voter Index. Taken together, it's clear Mirkarimi indeed performed well in the more progressive areas of the city, with a very high percentage of votes in those precincts and neighborhoods.

¹ <http://flanalytics.com/Work%20files/Latterman%20PVI%202011.pdf>

² DOE lists an ID number is designed only as a placeholder for compiling election results. This does not correlate to anything in the voter file and it cannot be used to figure out how an individual voted.



Map 1: First choice vote for Mirkarimi

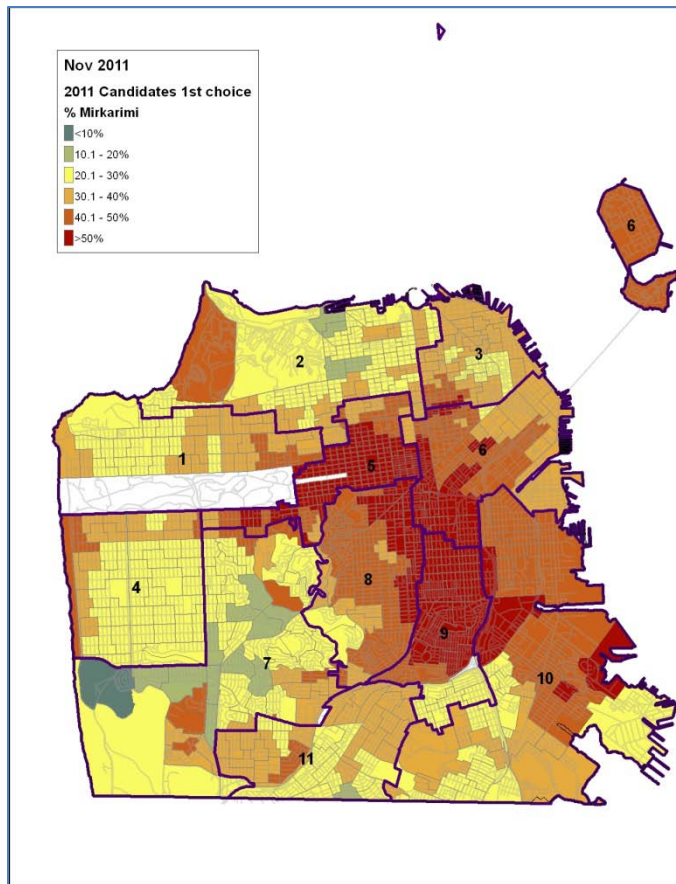
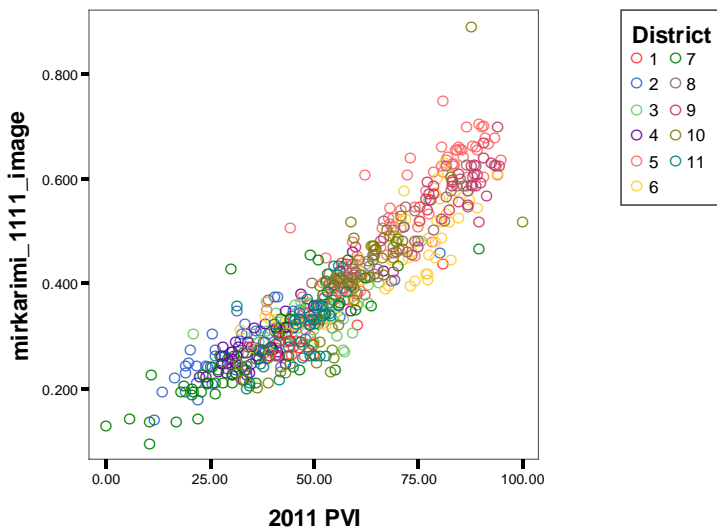


Figure 1: Correlation between 2011 Progressive Voter Index and first choice vote for Mirkarimi



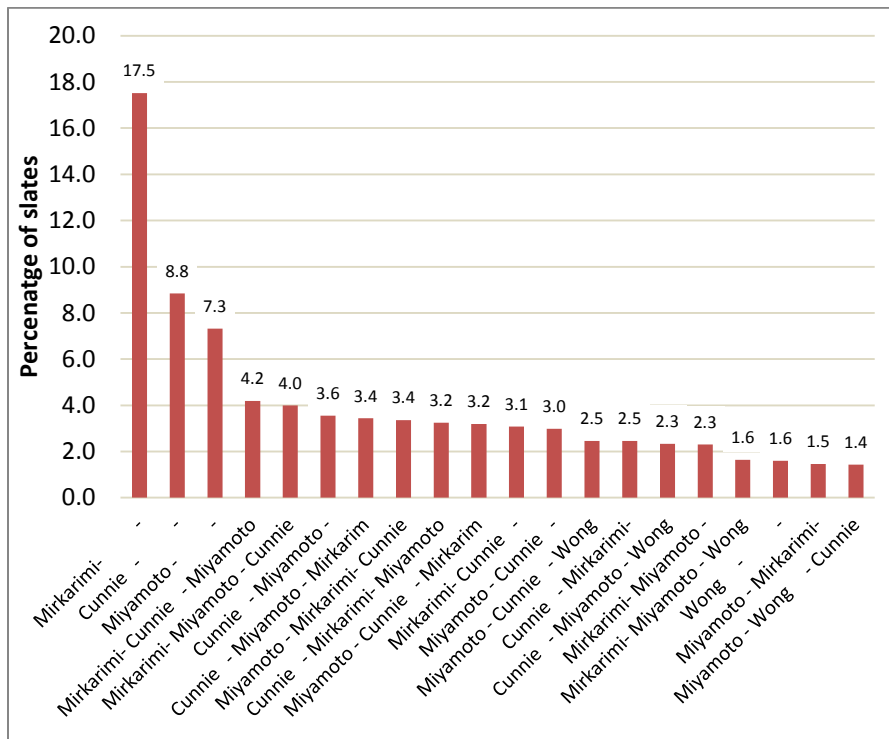
In the RCV tallies, Mirkarimi won after Cunnie's voted were redistributed in the final round (Wong's redistribution pushed Miyamoto ahead of Cunnie). Table 1 shows some details from this race.

Table 1: Summary RCV data for Sheriff's race

| | | |
|----------------------------------|--------|-----|
| Sheriff votes (1st choice given) | 181128 | |
| 1 choice | 68926 | 38% |
| 2 choices | 35236 | 19% |
| 3 choices | 76553 | 42% |
| Had Mirkarimi | 113981 | 63% |
| Had Miyamoto | 107569 | 59% |
| Had Cunnie | 106355 | 59% |

The most striking thing about Table 1 is that nearly as many voters voted for one candidate as those who voted for three. 38% of voters only listed one choice. 63% of ballots contained the eventual winner, but both Cunnie (59%) and Miyamoto (59%) were close behind. Figure 2 shows the frequencies of the top 20 slates, which indicates that the top three slates, by a significant margin, were bullet votes for each of the three major candidates.

Figure 2: Top slate frequencies for the Sheriff's race



Mirkarimi received the most bullet votes by far, which is consistent with the fact he was politically unlike the other candidates. Many endorsement slates indicated to vote for Mirkarimi and no one else, which it appears is what many voters did.

Table 2 is the crosstab of first choice vs second choice for Sheriff. Mirkarimi received 25% of Cunnie's second choices and 24% of Miyamoto's second choices, from which we infer Mirkarimi would have won regardless of the Miyamoto-Cunnie order. However, there was clearly more synergy with the more moderate candidates, as 36% of Cunnie's seconds went to Miyamoto and 35% of Miyamoto's seconds went to Cunnie.

If there had been a runoff, whoever came in second to Mirkarimi probably would have prevailed. Turnout would have been important, as would the kind of campaigns the candidates ran. However, Mirkarimi was outpolled by moderates nearly two-to-one and in a more differentiating one-on-one race would have likely brought some voters - who placed a moderate first and Mirkarimi second - to the more conservative candidate in a runoff.

Table 2: Sheriff first choice vs Sheriff second choice Crosstab

| | | | Sheriff2 | | | | | Total |
|----------|-------------------|-------------------|----------|--------|-----------|----------|--------|--------|
| | | | | Cunnie | Mirkarimi | Miyamoto | Wong | |
| Sheriff1 | | Count | 14004 | 62 | 47 | 51 | 32 | 14196 |
| | | % within Sheriff1 | 98.6% | .4% | .3% | .4% | .2% | 100.0% |
| | | % within Sheriff2 | 16.8% | .2% | .2% | .1% | .3% | 7.3% |
| | Cunnie | Count | 17395 | 0 | 12334 | 18191 | 2893 | 50813 |
| | | % within Sheriff1 | 34.2% | .0% | 24.3% | 35.8% | 5.7% | 100.0% |
| | | % within Sheriff2 | 20.9% | .0% | 46.7% | 47.5% | 22.9% | 26.0% |
| | Mirkarimi | Count | 34353 | 16124 | 154 | 15519 | 3451 | 69601 |
| | | % within Sheriff1 | 49.4% | 23.2% | .2% | 22.3% | 5.0% | 100.0% |
| | | % within Sheriff2 | 41.2% | 46.6% | .6% | 40.6% | 27.3% | 35.6% |
| | Miyamoto | Count | 14417 | 16866 | 11856 | 0 | 6273 | 49412 |
| | | % within Sheriff1 | 29.2% | 34.1% | 24.0% | .0% | 12.7% | 100.0% |
| | | % within Sheriff2 | 17.3% | 48.7% | 44.9% | .0% | 49.6% | 25.3% |
| | Wong | Count | 3173 | 1586 | 2037 | 4505 | 0 | 11301 |
| | | % within Sheriff1 | 28.1% | 14.0% | 18.0% | 39.9% | .0% | 100.0% |
| | | % within Sheriff2 | 3.8% | 4.6% | 7.7% | 11.8% | .0% | 5.8% |
| Total | Count | 83342 | 34638 | 26428 | 38266 | 12649 | 195323 | |
| | % within Sheriff1 | 42.7% | 17.7% | 13.5% | 19.6% | 6.5% | 100.0% | |
| | % within Sheriff2 | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | |

District Attorney

George Gascon, the appointed incumbent who had been in office about 10 months, defeated David Onek and Sharmin Bock, among other candidates. Gascon was the former police chief, and somewhat of a surprise DA pick once Kamala Harris won California AG in November 2010. He received 42% of the first choice votes, more than any other candidate on the ballot in November. Onek received 24% of the first choice vote and Bock received 21%. Gascon was considered the most conservative (law-and-order) of the major candidates. Bock is an Alameda County prosecutor who ran somewhat apolitically, but also somewhat law-and-order, while Onek ran as a left-leaning academic and a "reformer".

Map 2 shows the first choice vote for Gascon. He did pretty well throughout the city, except for the strongly progressive areas. The correlation between PVI and Gascon showed a somewhat strong correlation with moderate precincts (Figure 3). This is contrasted with Onek, whose PVI profile looked just like Mirkarimi's.

Map 2: First choice vote for Gascon

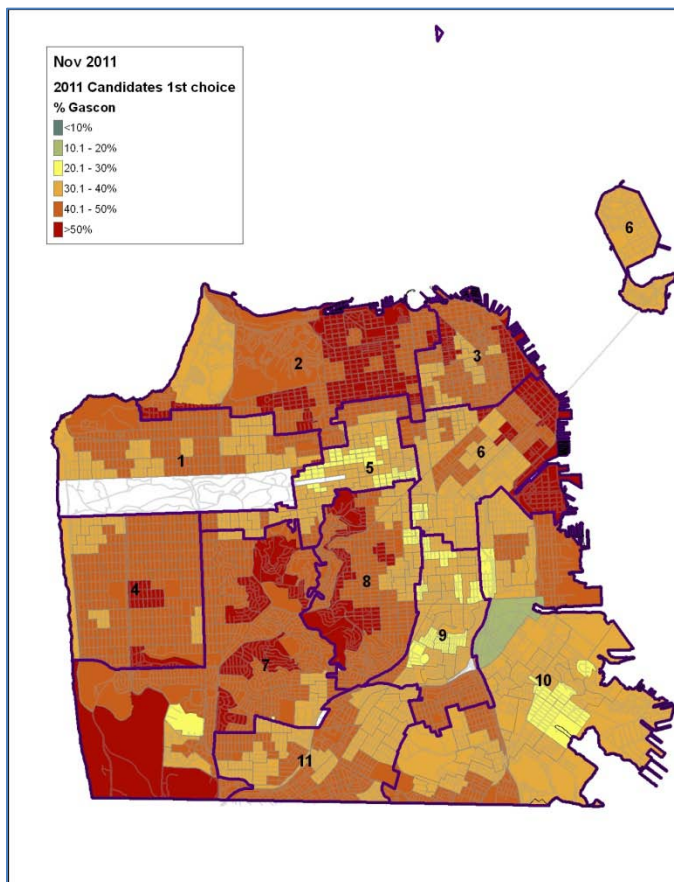
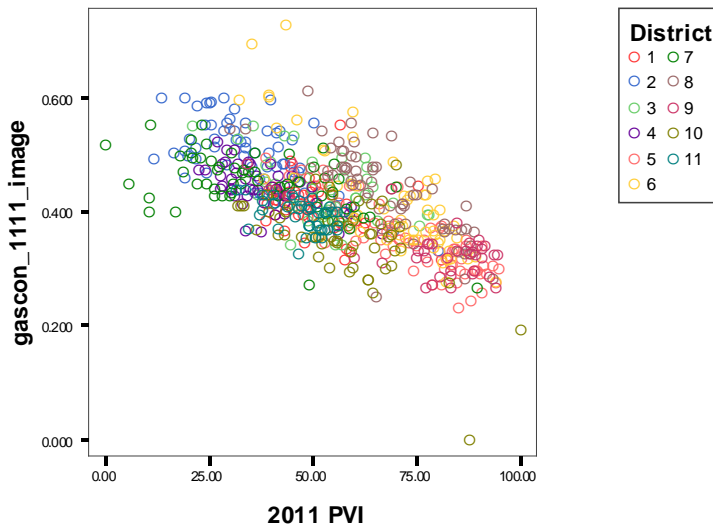


Figure 3: Correlation between 2011 Progressive Voter Index and first choice vote for Gascon



Gascon seemed to have won rather easily, with more first-choice votes than any other candidate. However, in this case, the race was much closer than first appearances. Table 3 shows the breakdown of choices made. More voters indicated three preferences (52%) than in the Sheriff's race; and twice as many as bullet voted in this race (27%). But the most noteworthy percentage is that Bock appeared on only 1% fewer slates than Gascon.

Table 3: Summary RCV stats for the DA's race

| | | |
|-----------------------------|--------|-----|
| DA votes (1st choice given) | 182044 | |
| 1 choice | 48467 | 27% |
| 2 choices | 39019 | 21% |
| 3 choices | 94562 | 52% |
| Had Gascon | 112827 | 62% |
| Had Onek | 83431 | 46% |
| Had Bock | 111914 | 61% |

While the Gascon bullet slate was certainly the largest plurality choice (Figure 4), the next three most frequent slates omitted him, and all had Bock. Table 4 shows the first choice by second choice crosstab. The Bock numbers are revealing; she received 62% of Onek's seconds while Gascon received 12%, (a 5:1 ratio). This is a larger single-transfer than the Rebecca Kaplan to Jean Quan transfer that swung the 2010 Oakland mayoral race in Quan's favor. Because Onek came in second through his support from the progressive community, the race appeared lopsided. Gascon received 29% of Bock's seconds, while Onek received 23% of those votes. This explains why the final results were not particularly close. And this transfer made sense given Bock's appeals as a "law-and-order" candidate herself. However, had

Bock managed to come in second, the final tally would have been very close but still likely in Gascon’s favor.

Gascon would have prevailed somewhat easily in a runoff against Onek. Against Bock, however, the race would have been much closer, especially if there were strong progressive turnout.

Notwithstanding, Gascon would likely have won this race, due to his strong base of existing support (and assuming his first choice vote stayed with him).

Figure 4: Top slate frequencies for the DA's race

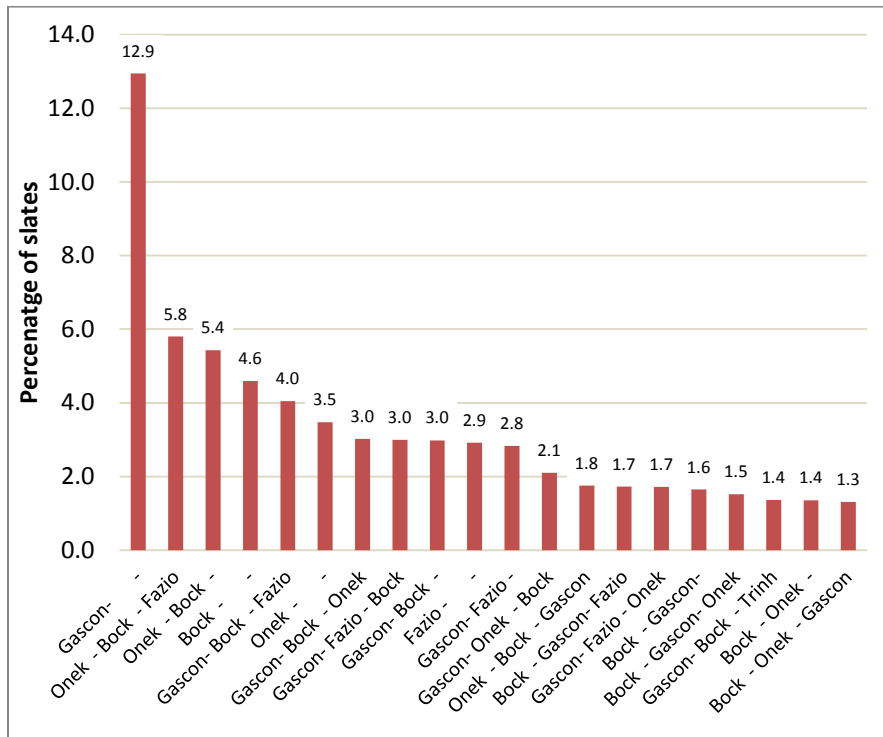


Table 4: DA first choice vs DA second choice crosstab

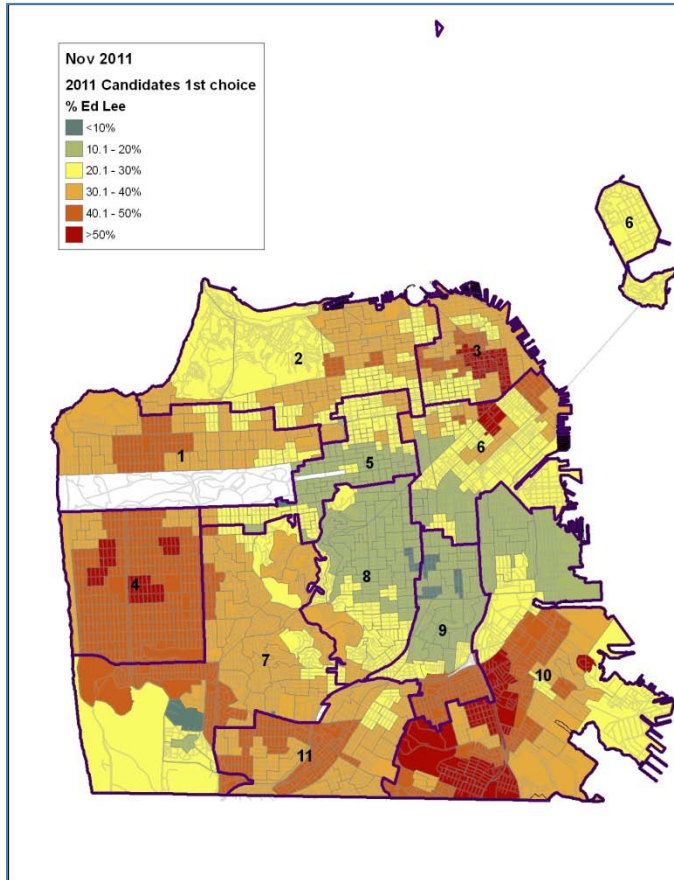
| | | | DA 2 | | | | | | Total |
|-------|---------------|---------------|--------|--------|--------|--------|--------|--------|--------|
| | | | | Bock | Fazio | Gascon | Onek | Trinh | |
| DA 1 | | Count | 13279 | 0 | 0 | 0 | 0 | 0 | 13279 |
| | | % within DA 1 | 100.0% | .0% | .0% | .0% | .0% | .0% | 100.0% |
| | | % within DA 2 | 21.5% | .0% | .0% | .0% | .0% | .0% | 6.8% |
| | Bock | Count | 8981 | 0 | 6039 | 11090 | 8523 | 3166 | 37799 |
| | | % within DA 1 | 23.8% | .0% | 16.0% | 29.3% | 22.5% | 8.4% | 100.0% |
| | | % within DA 2 | 14.5% | .0% | 23.1% | 47.8% | 39.9% | 37.7% | 19.4% |
| | Fazio | Count | 5701 | 4014 | 0 | 5695 | 2605 | 1114 | 19129 |
| | | % within DA 1 | 29.8% | 21.0% | .0% | 29.8% | 13.6% | 5.8% | 100.0% |
| | | % within DA 2 | 9.2% | 7.4% | .0% | 24.6% | 12.2% | 13.3% | 9.8% |
| | Gascon | Count | 25285 | 22304 | 16234 | 0 | 9055 | 2833 | 75711 |
| | | % within DA 1 | 33.4% | 29.5% | 21.4% | .0% | 12.0% | 3.7% | 100.0% |
| | | % within DA 2 | 41.0% | 41.0% | 62.0% | .0% | 42.4% | 33.7% | 38.8% |
| | Onek | Count | 6795 | 26439 | 3222 | 5082 | 0 | 1294 | 42832 |
| | | % within DA 1 | 15.9% | 61.7% | 7.5% | 11.9% | .0% | 3.0% | 100.0% |
| | | % within DA 2 | 11.0% | 48.6% | 12.3% | 21.9% | .0% | 15.4% | 21.9% |
| | Trinh | Count | 1705 | 1693 | 683 | 1320 | 1172 | 0 | 6573 |
| | | % within DA 1 | 25.9% | 25.8% | 10.4% | 20.1% | 17.8% | .0% | 100.0% |
| | | % within DA 2 | 2.8% | 3.1% | 2.6% | 5.7% | 5.5% | .0% | 3.4% |
| Total | Count | 61746 | 54450 | 26178 | 23187 | 21355 | 8407 | 195323 | |
| | % within DA 1 | 31.6% | 27.9% | 13.4% | 11.9% | 10.9% | 4.3% | 100.0% | |
| | % within DA 2 | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | |

Mayor

The Mayor's race was a wide-open affair before appointed incumbent Mayor Ed Lee entered the race in August. Several well-known candidates were vying against one another - with several relatively close in the standings - until Lee announced his intention to seek the office. Most polling had him in the low 30% range of voter's first choices when he entered the race, which is exactly what he received when he won (31%). He was followed by District 11 Supervisor John Avalos, the most "progressive" major candidate in the race (19%), City Attorney Dennis Herrera (11%), and President of the Board of Supervisors David Chiu (9%). Lee was considered somewhat of a moderate, and Herrera and Chiu were seen by most as center-left. However, in this race, stated political ideology wasn't as major a factor as it had been in previous years. Instead, much of this race centered around the 'Chinese vote' and whether if or how any one candidate could rise above Lee.

Map 3 shows Lee's first choice votes, concentrated disproportionately in Chinese and moderate parts of the city. Lee's support among these two groups become especially clear after seeing the Lee first choice vote correlated with the Asian precinct percentage³ (Figure 5) and PVI (Figure 6). The positive correlations with both groups are strong.

Map 3: First choice vote for Lee



³ This value is over 18 Asian percentage. Chinese specific data were not available, but these data do not include Pacific Islanders.

Figure 5: Correlation between 2010 Census over 18 Asian percentage and Lee

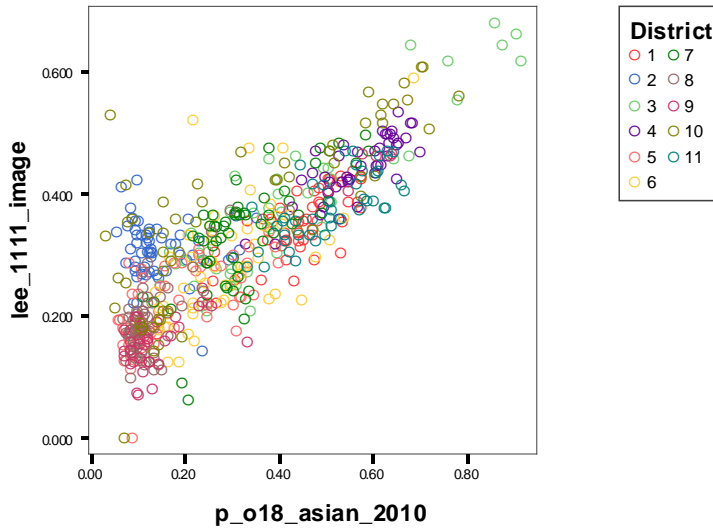
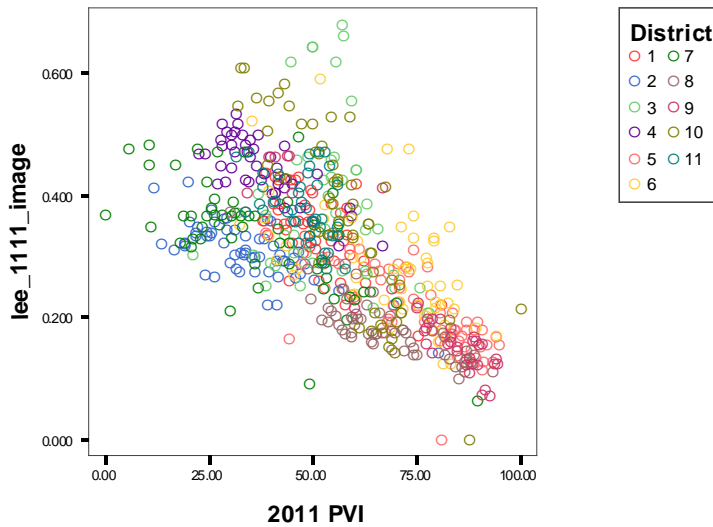


Figure 6: Correlation between PVI and Lee



Unlike the down-ballot races, bullet voting for this race was relatively low, with 73% of voters expressing three choices (Table 5) and only 16% of voters only choosing one candidate. The large plurality of bullet votes went for Lee, followed by Avalos. Interestingly, Avalos, who came in second, appeared on the fourth-most ballots, below Lee, Herrera, and Chiu.

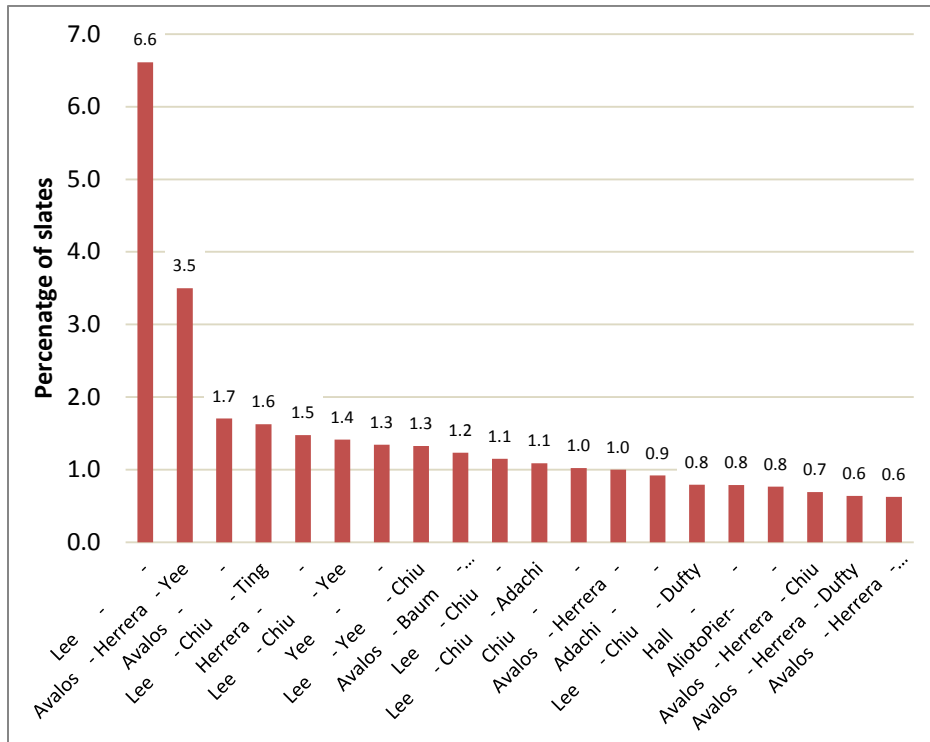
Table 5: Summary RCV stats for the Mayor's race

| | | |
|--------------------------------|--------|-----|
| Mayor votes (1st choice given) | 192901 | |
| 1 choice | 30565 | 16% |
| 2 choices | 21574 | 11% |
| 3 choices | 140762 | 73% |
| Had Lee | 88987 | 46% |
| Had Avalos | 61731 | 32% |
| Had Herrera | 69593 | 36% |
| Had Chiu | 61820 | 32% |
| Had Yee | 50006 | 26% |

Much was made about the Chinese vote in this race, which was energized to vote for one of several Chinese candidates (but especially the incumbent Mayor). Looking the the slate frequency for the Mayor's race, there is some evidence for Chinese ethnic voting patterns (Figure 7). Of the top 12 slates, 7 were some form of Chinese only candidates, including bullets. After the Lee bullet-vote which was by far the single most common slate, the second most common slate was the *Bay Guardian* slate of Avalos-Herrera-Yee, which appeared on 3.5% of all ballots. This number is somewhat consistent to past elections of the *Guardian's* citywide influence. Obviously, that number varies by district. The Democratic Party slate of Avalos-Herrera was the 20th most common, and appeared on less than 1% of all ballots.

Lee was able to win this race by dominating the Chinese vote and doing well with second and third choices throughout most of the city. Though he wasn't able to gain on his first-choice total from when he entered the race, he was able to form a broader coalition than other candidates. Avalos did very well in maximizing his potential first choice vote, but similar to Onek, wasn't able to draw beyond the progressive base for second or third choice votes. Herrera and Chiu were on more total ballots and showed more breadth of support. Had this race gone to a runoff, Lee would have defeated Avalos somewhat easily, given his much stronger second-choice performance. Ironically, Lee may have had a more difficult time with other candidates in a runoff.

Figure 7: Top slate frequencies for Mayor's race



The first choice mayor vote by second choice mayor vote crosstab (Table 6) reveals some noteworthy trends. These include:

- By a wide margin, Chiu received the plurality of Lee's second place votes (27%). This was the same number of second choice votes Lee received from Chiu, suggesting substantial overlap between the two candidacies.
- The largest transfers between candidates came from Herrera and Avalos. Herrera received an impressive 42% of Avalos' seconds while Avalos received 21% of Herrera's seconds.
- Voters were likely to bullet vote for the more conservative candidates. 23% of Alioto-Pier voters had no second choice, followed by Hall (23%) and Lee (22%).
- Lee was the top second choice for every Chinese candidate.

Table 6: Mayor first choice vs Mayor second choice crosstab

| | | Mayor2 | | | | | | | | | | | | | | | | | | |
|------------|-----------------|--------|--------|-------------|------------|--------|--------|--------|---------|--------|-------|---------|----------|--------|-------|-------|-------|------|--------|---------|
| Mayor1 | | Null | Adachi | Alioto Pier | Ascar runz | Avalos | Baum | Chiu | Currier | Dufty | Hall | Herrera | Lawrence | Lee | Pang | Rees | Ting | W-In | Yee | Total |
| Null | Count | 2422.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2422.0 |
| | % within Mayor1 | 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 100.0 |
| | % within Mayor2 | 7.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.2 |
| Adachi | Count | 1829.0 | 0.0 | 807.0 | 84.0 | 1446.0 | 97.0 | 1525.0 | 50.0 | 598.0 | 865.0 | 1787.0 | 72.0 | 1535.0 | 103.0 | 479.0 | 259.0 | 1.0 | 888.0 | 12425.0 |
| | % within Mayor1 | 14.7 | 0.0 | 6.5 | 0.7 | 11.6 | 0.8 | 12.3 | 0.4 | 4.8 | 7.0 | 14.4 | 0.6 | 12.4 | 0.8 | 3.9 | 2.1 | 0.0 | 7.1 | 100.0 |
| | % within Mayor2 | 5.5 | 0.0 | 8.0 | 7.2 | 9.4 | 2.2 | 5.7 | 9.9 | 5.3 | 19.5 | 5.8 | 11.0 | 9.3 | 5.7 | 10.3 | 6.3 | 16.7 | 5.8 | 6.4 |
| AliotoPier | Count | 1515.0 | 475.0 | 0.0 | 81.0 | 385.0 | 92.0 | 383.0 | 29.0 | 447.0 | 375.0 | 751.0 | 71.0 | 947.0 | 40.0 | 487.0 | 55.0 | 0.0 | 519.0 | 6652.0 |
| | % within Mayor1 | 22.8 | 7.1 | 0.0 | 1.2 | 5.8 | 1.4 | 5.8 | 0.4 | 6.7 | 5.6 | 11.3 | 1.1 | 14.2 | 0.6 | 7.3 | 0.8 | 0.0 | 7.8 | 100.0 |
| | % within Mayor2 | 4.5 | 3.4 | 0.0 | 7.0 | 2.5 | 2.1 | 1.4 | 5.7 | 4.0 | 8.4 | 2.4 | 10.8 | 5.7 | 2.2 | 10.4 | 1.3 | 0.0 | 3.4 | 3.4 |
| Ascarrunz | Count | 89.0 | 32.0 | 61.0 | 0.0 | 72.0 | 12.0 | 13.0 | 10.0 | 18.0 | 42.0 | 55.0 | 21.0 | 38.0 | 10.0 | 24.0 | 11.0 | 0.0 | 29.0 | 537.0 |
| | % within Mayor1 | 16.6 | 6.0 | 11.4 | 0.0 | 13.4 | 2.2 | 2.4 | 1.9 | 3.4 | 7.8 | 10.2 | 3.9 | 7.1 | 1.9 | 4.5 | 2.0 | 0.0 | 5.4 | 100.0 |
| | % within Mayor2 | 0.3 | 0.2 | 0.6 | 0.0 | 0.5 | 0.3 | 0.0 | 2.0 | 0.2 | 0.9 | 0.2 | 3.2 | 0.2 | 0.6 | 0.5 | 0.3 | 0.0 | 0.2 | 0.3 |
| Avalos | Count | 3407.0 | 2901.0 | 811.0 | 277.0 | 0.0 | 3496.0 | 2973.0 | 74.0 | 1916.0 | 167.0 | 15420.0 | 47.0 | 1592.0 | 85.0 | 397.0 | 190.0 | 0.0 | 3114.0 | 36867.0 |
| | % within Mayor1 | 9.2 | 7.9 | 2.2 | 0.8 | 0.0 | 9.5 | 8.1 | 0.2 | 5.2 | 0.5 | 41.8 | 0.1 | 4.3 | 0.2 | 1.1 | 0.5 | 0.0 | 8.4 | 100.0 |
| | % within Mayor2 | 10.2 | 20.8 | 8.1 | 23.8 | 0.0 | 80.4 | 11.0 | 14.7 | 16.9 | 3.8 | 50.0 | 7.2 | 9.6 | 4.7 | 8.5 | 4.6 | 0.0 | 20.4 | 18.9 |
| Baum | Count | 91.0 | 96.0 | 42.0 | 12.0 | 993.0 | 0.0 | 41.0 | 17.0 | 57.0 | 19.0 | 69.0 | 22.0 | 46.0 | 44.0 | 47.0 | 13.0 | 0.0 | 41.0 | 1650.0 |
| | % within Mayor1 | 5.5 | 5.8 | 2.5 | 0.7 | 60.2 | 0.0 | 2.5 | 1.0 | 3.5 | 1.2 | 4.2 | 1.3 | 2.8 | 2.7 | 2.8 | 0.8 | 0.0 | 2.5 | 100.0 |
| | % within Mayor2 | 0.3 | 0.7 | 0.4 | 1.0 | 6.5 | 0.0 | 0.2 | 3.4 | 0.5 | 0.4 | 0.2 | 3.3 | 0.3 | 2.4 | 1.0 | 0.3 | 0.0 | 0.3 | 0.8 |
| Chiu | Count | 2020.0 | 1752.0 | 646.0 | 26.0 | 2017.0 | 53.0 | 0.0 | 30.0 | 1043.0 | 233.0 | 2939.0 | 23.0 | 4449.0 | 98.0 | 417.0 | 590.0 | 0.0 | 1485.0 | 17821.0 |
| | % within Mayor1 | 11.3 | 9.8 | 3.6 | 0.1 | 11.3 | 0.3 | 0.0 | 0.2 | 5.9 | 1.3 | 16.5 | 0.1 | 25.0 | 0.5 | 2.3 | 3.3 | 0.0 | 8.3 | 100.0 |
| | % within Mayor2 | 6.1 | 12.5 | 6.4 | 2.2 | 13.1 | 1.2 | 0.0 | 5.9 | 9.2 | 5.2 | 9.5 | 3.5 | 26.8 | 5.4 | 8.9 | 14.4 | 0.0 | 9.7 | 9.1 |

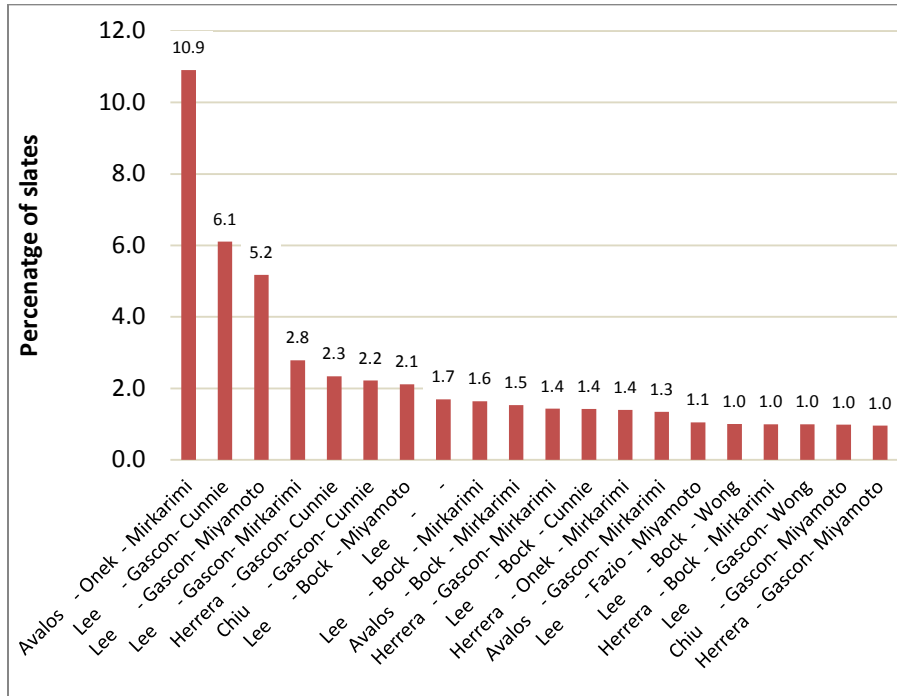
| | | Null | Adachi | Alioto Pier | Ascar runz | Avalos | Baum | Chiu | Currier | Dufty | Hall | Herrera | Lawrence | Lee | Pang | Rees | Ting | W-In | Yee | Total |
|----------|-----------------|---------|--------|-------------|------------|--------|-------|---------|---------|--------|--------|---------|----------|--------|--------|--------|--------|------|--------|---------|
| Currier | Count | 40.0 | 22.0 | 11.0 | 13.0 | 26.0 | 11.0 | 9.0 | 0.0 | 11.0 | 23.0 | 21.0 | 12.0 | 17.0 | 11.0 | 7.0 | 6.0 | 0.0 | 9.0 | 249.0 |
| | % within Mayor1 | 16.1 | 8.8 | 4.4 | 5.2 | 10.4 | 4.4 | 3.6 | 0.0 | 4.4 | 9.2 | 8.4 | 4.8 | 6.8 | 4.4 | 2.8 | 2.4 | 0.0 | 3.6 | 100.0 |
| | % within Mayor2 | 0.1 | 0.2 | 0.1 | 1.1 | 0.2 | 0.3 | 0.0 | 0.0 | 0.1 | 0.5 | 0.1 | 1.8 | 0.1 | 0.6 | 0.1 | 0.1 | 0.0 | 0.1 | 0.1 |
| Dufty | Count | 1059.0 | 454.0 | 613.0 | 45.0 | 1315.0 | 92.0 | 847.0 | 23.0 | 0.0 | 141.0 | 2444.0 | 12.0 | 1227.0 | 24.0 | 214.0 | 91.0 | 0.0 | 487.0 | 9088.0 |
| | % within Mayor1 | 11.7 | 5.0 | 6.7 | 0.5 | 14.5 | 1.0 | 9.3 | 0.3 | 0.0 | 1.6 | 26.9 | 0.1 | 13.5 | 0.3 | 2.4 | 1.0 | 0.0 | 5.4 | 100.0 |
| | % within Mayor2 | 3.2 | 3.3 | 6.1 | 3.9 | 8.5 | 2.1 | 3.1 | 4.6 | 0.0 | 3.2 | 7.9 | 1.8 | 7.4 | 1.3 | 4.6 | 2.2 | 0.0 | 3.2 | 4.7 |
| Hall | Count | 1556.0 | 993.0 | 755.0 | 79.0 | 138.0 | 38.0 | 251.0 | 43.0 | 203.0 | 0.0 | 526.0 | 97.0 | 1327.0 | 20.0 | 506.0 | 82.0 | 0.0 | 255.0 | 6869.0 |
| | % within Mayor1 | 22.7 | 14.5 | 11.0 | 1.2 | 2.0 | 0.6 | 3.7 | 0.6 | 3.0 | 0.0 | 7.7 | 1.4 | 19.3 | 0.3 | 7.4 | 1.2 | 0.0 | 3.7 | 100.0 |
| | % within Mayor2 | 4.7 | 7.1 | 7.5 | 6.8 | 0.9 | 0.9 | 0.9 | 8.5 | 1.8 | 0.0 | 1.7 | 14.8 | 8.0 | 1.1 | 10.8 | 2.0 | 0.0 | 1.7 | 3.5 |
| Herrera | Count | 2943.0 | 1840.0 | 1225.0 | 179.0 | 4512.0 | 113.0 | 2654.0 | 49.0 | 2999.0 | 472.0 | 0.0 | 47.0 | 2095.0 | 45.0 | 631.0 | 248.0 | 0.0 | 1687.0 | 21739.0 |
| | % within Mayor1 | 13.5 | 8.5 | 5.6 | 0.8 | 20.8 | 0.5 | 12.2 | 0.2 | 13.8 | 2.2 | 0.0 | 0.2 | 9.6 | 0.2 | 2.9 | 1.1 | 0.0 | 7.8 | 100.0 |
| | % within Mayor2 | 8.8 | 13.2 | 12.2 | 15.4 | 29.3 | 2.6 | 9.9 | 9.7 | 26.5 | 10.6 | 0.0 | 7.2 | 12.6 | 2.5 | 13.5 | 6.1 | 0.0 | 11.1 | 11.1 |
| Lawrence | Count | 89.0 | 29.0 | 29.0 | 27.0 | 8.0 | 19.0 | 17.0 | 15.0 | 10.0 | 37.0 | 14.0 | 0.0 | 26.0 | 11.0 | 30.0 | 8.0 | 1.0 | 13.0 | 383.0 |
| | % within Mayor1 | 23.2 | 7.6 | 7.6 | 7.0 | 2.1 | 5.0 | 4.4 | 3.9 | 2.6 | 9.7 | 3.7 | 0.0 | 6.8 | 2.9 | 7.8 | 2.1 | 0.3 | 3.4 | 100.0 |
| | % within Mayor2 | 0.3 | 0.2 | 0.3 | 2.3 | 0.1 | 0.4 | 0.1 | 3.0 | 0.1 | 0.8 | 0.0 | 0.0 | 0.2 | 0.6 | 0.6 | 0.2 | 16.7 | 0.1 | 0.2 |
| Lee | Count | 13042.0 | 4028.0 | 3622.0 | 234.0 | 2208.0 | 160.0 | 15736.0 | 103.0 | 3286.0 | 1515.0 | 4599.0 | 132.0 | 0.0 | 1097.0 | 1090.0 | 2208.0 | 4.0 | 6415.0 | 59479.0 |
| | % within Mayor1 | 21.9 | 6.8 | 6.1 | 0.4 | 3.7 | 0.3 | 26.5 | 0.2 | 5.5 | 2.5 | 7.7 | 0.2 | 0.0 | 1.8 | 1.8 | 3.7 | 0.0 | 10.8 | 100.0 |
| | % within Mayor2 | 39.1 | 28.8 | 36.1 | 20.1 | 14.4 | 3.7 | 58.5 | 20.4 | 29.1 | 34.1 | 14.9 | 20.1 | 0.0 | 60.8 | 23.3 | 54.0 | 66.7 | 42.1 | 30.5 |
| Pang | Count | 61.0 | 35.0 | 21.0 | 4.0 | 15.0 | 32.0 | 46.0 | 14.0 | 12.0 | 21.0 | 17.0 | 10.0 | 75.0 | 0.0 | 35.0 | 19.0 | 0.0 | 27.0 | 444.0 |
| | % within Mayor1 | 13.7 | 7.9 | 4.7 | 0.9 | 3.4 | 7.2 | 10.4 | 3.2 | 2.7 | 4.7 | 3.8 | 2.3 | 16.9 | 0.0 | 7.9 | 4.3 | 0.0 | 6.1 | 100.0 |
| | % within Mayor2 | 0.2 | 0.3 | 0.2 | 0.3 | 0.1 | 0.7 | 0.2 | 2.8 | 0.1 | 0.5 | 0.1 | 1.5 | 0.5 | 0.0 | 0.7 | 0.5 | 0.0 | 0.2 | 0.2 |
| Rees | Count | 474.0 | 241.0 | 424.0 | 35.0 | 173.0 | 45.0 | 264.0 | 19.0 | 160.0 | 236.0 | 340.0 | 50.0 | 353.0 | 48.0 | 0.0 | 42.0 | 0.0 | 181.0 | 3085.0 |
| | % within Mayor1 | 15.4 | 7.8 | 13.7 | 1.1 | 5.6 | 1.5 | 8.6 | 0.6 | 5.2 | 7.6 | 11.0 | 1.6 | 11.4 | 1.6 | 0.0 | 1.4 | 0.0 | 5.9 | 100.0 |
| | % within Mayor2 | 1.4 | 1.7 | 4.2 | 3.0 | 1.1 | 1.0 | 1.0 | 3.8 | 1.4 | 5.3 | 1.1 | 7.6 | 2.1 | 2.7 | 0.0 | 1.0 | 0.0 | 1.2 | 1.6 |

| | Null | Adachi | Alioto Pier | Ascar runz | Avalos | Baum | Chiu | Currier | Dufty | Hall | Herrera | Lawrence | Lee | Pang | Rees | Ting | W-In | Yee | Total | |
|-------|-----------------|---------|-------------|------------|--------|---------|--------|---------|-------|---------|---------|----------|-------|---------|--------|--------|--------|-------|---------|----------|
| Ting | Count | 112.0 | 96.0 | 42.0 | 8.0 | 75.0 | 11.0 | 150.0 | 6.0 | 53.0 | 29.0 | 110.0 | 5.0 | 189.0 | 17.0 | 32.0 | 0.0 | 0.0 | 81.0 | 1016.0 |
| | % within Mayor1 | 11.0 | 9.4 | 4.1 | 0.8 | 7.4 | 1.1 | 14.8 | 0.6 | 5.2 | 2.9 | 10.8 | 0.5 | 18.6 | 1.7 | 3.1 | 0.0 | 0.0 | 8.0 | 100.0 |
| | % within Mayor2 | 0.3 | 0.7 | 0.4 | 0.7 | 0.5 | 0.3 | 0.6 | 1.2 | 0.5 | 0.7 | 0.4 | 0.8 | 1.1 | 0.9 | 0.7 | 0.0 | 0.0 | 0.5 | 0.5 |
| W-In | Count | 14.0 | 0.0 | 1.0 | 1.0 | 1.0 | 0.0 | 0.0 | 1.0 | 1.0 | 5.0 | 1.0 | 3.0 | 3.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 32.0 |
| | % within Mayor1 | 43.8 | 0.0 | 3.1 | 3.1 | 3.1 | 0.0 | 0.0 | 3.1 | 3.1 | 15.6 | 3.1 | 9.4 | 9.4 | 0.0 | 0.0 | 0.0 | 0.0 | 3.1 | 100.0 |
| | % within Mayor2 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.2 | 0.0 | 0.1 | 0.0 | 0.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Yee | Count | 2624.0 | 971.0 | 935.0 | 59.0 | 1998.0 | 75.0 | 1997.0 | 22.0 | 490.0 | 260.0 | 1738.0 | 33.0 | 2668.0 | 152.0 | 276.0 | 267.0 | 0.0 | 0.0 | 14565.0 |
| | % within Mayor1 | 18.0 | 6.7 | 6.4 | 0.4 | 13.7 | 0.5 | 13.7 | 0.2 | 3.4 | 1.8 | 11.9 | 0.2 | 18.3 | 1.0 | 1.9 | 1.8 | 0.0 | 0.0 | 100.0 |
| | % within Mayor2 | 7.9 | 7.0 | 9.3 | 5.1 | 13.0 | 1.7 | 7.4 | 4.4 | 4.3 | 5.9 | 5.6 | 5.0 | 16.1 | 8.4 | 5.9 | 6.5 | 0.0 | 0.0 | 7.5 |
| Total | Count | 33387.0 | 13965.0 | 10045.0 | 1164.0 | 15382.0 | 4346.0 | 26906.0 | 505.0 | 11304.0 | 4440.0 | 30831.0 | 657.0 | 16587.0 | 1805.0 | 4672.0 | 4089.0 | 6.0 | 15232.0 | 195323.0 |
| | % within Mayor1 | 17.1 | 7.1 | 5.1 | 0.6 | 7.9 | 2.2 | 13.8 | 0.3 | 5.8 | 2.3 | 15.8 | 0.3 | 8.5 | 0.9 | 2.4 | 2.1 | 0.0 | 7.8 | 100.0 |
| | % within Mayor2 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

Cross-race analyses

Because of the consistent voter ID used in the ballot image data, we are able to perform some analyses at the voter level on the three races together. This hasn't been done before in any RCV race in San Francisco. We first look at the 'All Firsts Slate' (Figure 8), where we see the most common first choice slate is the progressive slate, with Avalos, Onek, and Mirkarimi. This may be a truer metric of the 'left-leaning endorsement suite' than looking at any one race.⁴ Here, it's about 11%.

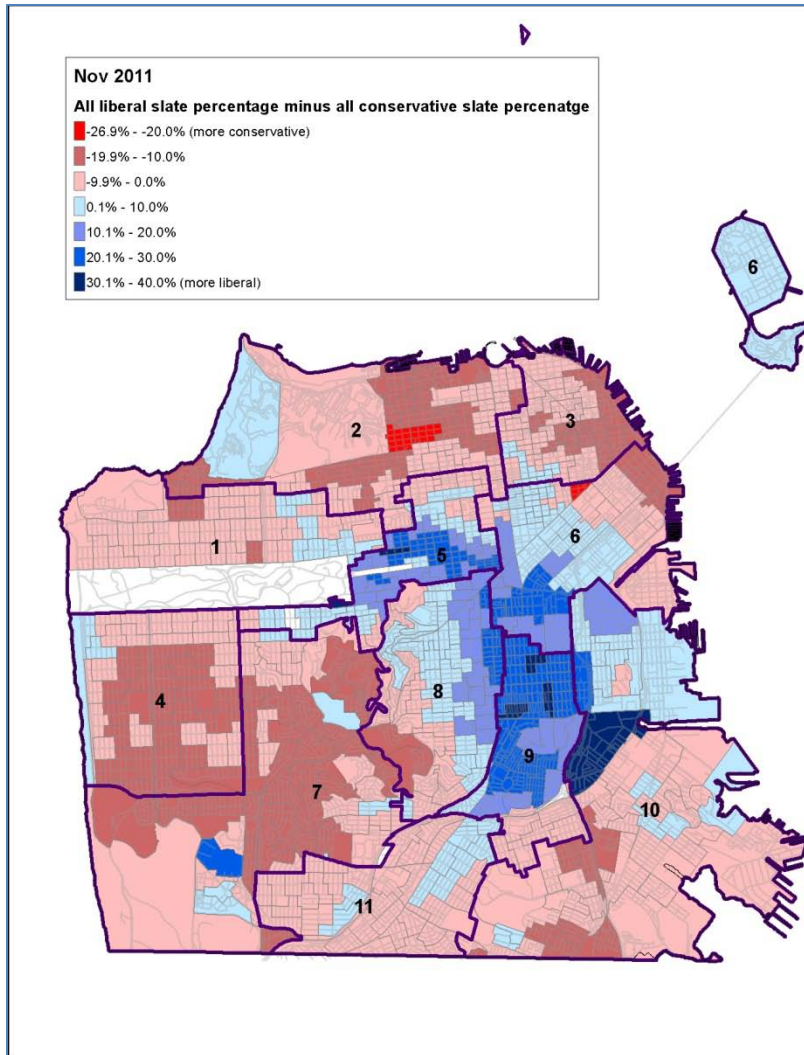
Figure 8: Top slate frequencies for all first choice votes across the three races



Map 4 shows the geographic distribution of "liberal" and "conservative" first-choice slates. We first took the percentage of a precinct that had a Mayor-DA-Sheriff slate of Avalos-Onek-Mirkarimi (the "liberal" slate). Then, we subtracted the precinct percentage of Lee-Gascon-Miyamoto/Cunnie (the "conservative" slate) from the liberal percentage. The result shows the neighborhoods that voted the most consistently liberal or conservative across all three races. This map is consistent with typical San Francisco voting patterns and is strongly correlative with PVI.

⁴ This includes the collective assortment of left-leaning slates, which are often quite similar. For example, the *Bay Guardian*, the Democratic party, Tenants Union, Milk Club, etc.

Map 4: Percentage of the 'liberal' three-race slate minus the 'conservative three-race slate



Tables 7, 8, and 9 show the first choice crosstabs for Mayor vs DA, Mayor vs Sheriff, and DA vs Sheriff respectively. There's a lot to look at. Here we just present some selected findings of interest:

- Over 50% of Lee voters voted for Gascon. Over 60% of Lee voters chose Cunnie or Miyamoto. Voters here showed some stronger ideological synergy among choices.
- Only 6% of Lee voters supported Onek, but 19% voted for Mirkarimi. For whatever reason, Mirkarimi was seen as more palatable to non-progressive voters.
- 64% of Avalos voters supported Onek, 55% of Onek voters supported Avalos.
- 75% of Onek voters supported Mirkarimi, but just 45% of Mirkarimi voters supported Onek.
- The largest correlation we found was that 77% of Avalos voters also voted for Mirkarimi. All in all, progressives vote progressive across the ticket more than other political or even ethnic affinities, at least this year.
- Lee voters voted 59% to Wong for Sheriff, representing the largest Chinese pattern we could find.

Table 7: Mayor first choice vs DA first choice Crosstab

| | | | DA 1 | | | | | | |
|--------|------------|-----------------|-------|-------|-------|--------|-------|-------|--------|
| | | | Null | Bock | Fazio | Gascon | Onek | Trinh | Total |
| Mayor1 | Null | Count | 982 | 334 | 235 | 562 | 235 | 74 | 2422 |
| | | % within Mayor1 | 40.5% | 13.8% | 9.7% | 23.2% | 9.7% | 3.1% | 100.0% |
| | | % within DA 1 | 7.4% | .9% | 1.2% | .7% | .5% | 1.1% | 1.2% |
| | Adachi | Count | 866 | 2559 | 2137 | 4419 | 1894 | 550 | 12425 |
| | | % within Mayor1 | 7.0% | 20.6% | 17.2% | 35.6% | 15.2% | 4.4% | 100.0% |
| | | % within DA 1 | 6.5% | 6.8% | 11.2% | 5.8% | 4.4% | 8.4% | 6.4% |
| | AliotoPier | Count | 327 | 1709 | 1209 | 2793 | 494 | 120 | 6652 |
| | | % within Mayor1 | 4.9% | 25.7% | 18.2% | 42.0% | 7.4% | 1.8% | 100.0% |
| | | % within DA 1 | 2.5% | 4.5% | 6.3% | 3.7% | 1.2% | 1.8% | 3.4% |
| | Ascarrunz | Count | 29 | 77 | 121 | 201 | 73 | 36 | 537 |
| | | % within Mayor1 | 5.4% | 14.3% | 22.5% | 37.4% | 13.6% | 6.7% | 100.0% |
| | | % within DA 1 | .2% | .2% | .6% | .3% | .2% | .5% | .3% |
| | Avalos | Count | 1775 | 4349 | 1592 | 5395 | 23512 | 244 | 36867 |
| | | % within Mayor1 | 4.8% | 11.8% | 4.3% | 14.6% | 63.8% | .7% | 100.0% |
| | | % within DA 1 | 13.4% | 11.5% | 8.3% | 7.1% | 54.9% | 3.7% | 18.9% |
| | Baum | Count | 98 | 226 | 80 | 140 | 1055 | 51 | 1650 |
| | | % within Mayor1 | 5.9% | 13.7% | 4.8% | 8.5% | 63.9% | 3.1% | 100.0% |
| | | % within DA 1 | .7% | .6% | .4% | .2% | 2.5% | .8% | .8% |
| | Chiu | Count | 1166 | 3564 | 1109 | 8612 | 2718 | 652 | 17821 |
| | | % within Mayor1 | 6.5% | 20.0% | 6.2% | 48.3% | 15.3% | 3.7% | 100.0% |
| | | % within DA 1 | 8.8% | 9.4% | 5.8% | 11.4% | 6.3% | 9.9% | 9.1% |
| | Currier | Count | 21 | 49 | 43 | 61 | 52 | 23 | 249 |
| | | % within Mayor1 | 8.4% | 19.7% | 17.3% | 24.5% | 20.9% | 9.2% | 100.0% |
| | | % within DA 1 | .2% | .1% | .2% | .1% | .1% | .3% | .1% |
| | Dufty | Count | 601 | 1520 | 868 | 4220 | 1785 | 94 | 9088 |
| | | % within Mayor1 | 6.6% | 16.7% | 9.6% | 46.4% | 19.6% | 1.0% | 100.0% |
| | | % within DA 1 | 4.5% | 4.0% | 4.5% | 5.6% | 4.2% | 1.4% | 4.7% |
| | Hall | Count | 383 | 1063 | 2228 | 2674 | 320 | 201 | 6869 |
| | | % within Mayor1 | 5.6% | 15.5% | 32.4% | 38.9% | 4.7% | 2.9% | 100.0% |
| | | % within DA 1 | 2.9% | 2.8% | 11.6% | 3.5% | .7% | 3.1% | 3.5% |
| | Herrera | Count | 901 | 4527 | 2113 | 9618 | 4442 | 138 | 21739 |
| | | % within Mayor1 | 4.1% | 20.8% | 9.7% | 44.2% | 20.4% | .6% | 100.0% |
| | | % within DA 1 | 6.8% | 12.0% | 11.0% | 12.7% | 10.4% | 2.1% | 11.1% |

| | | | Null | Bock | Fazio | Gascon | Onek | Trinh | Total |
|-------|----------|-----------------|--------|--------|--------|--------|--------|--------|--------|
| | Lawrence | Count | 31 | 85 | 90 | 72 | 79 | 26 | 383 |
| | | % within Mayor1 | 8.1% | 22.2% | 23.5% | 18.8% | 20.6% | 6.8% | 100.0% |
| | | % within DA 1 | .2% | .2% | .5% | .1% | .2% | .4% | .2% |
| | Lee | Count | 4753 | 12724 | 4798 | 30450 | 3467 | 3287 | 59479 |
| | | % within Mayor1 | 8.0% | 21.4% | 8.1% | 51.2% | 5.8% | 5.5% | 100.0% |
| | | % within DA 1 | 35.8% | 33.7% | 25.1% | 40.2% | 8.1% | 50.0% | 30.5% |
| | Pang | Count | 61 | 126 | 37 | 88 | 44 | 88 | 444 |
| | | % within Mayor1 | 13.7% | 28.4% | 8.3% | 19.8% | 9.9% | 19.8% | 100.0% |
| | | % within DA 1 | .5% | .3% | .2% | .1% | .1% | 1.3% | .2% |
| | Rees | Count | 243 | 968 | 463 | 985 | 348 | 78 | 3085 |
| | | % within Mayor1 | 7.9% | 31.4% | 15.0% | 31.9% | 11.3% | 2.5% | 100.0% |
| | | % within DA 1 | 1.8% | 2.6% | 2.4% | 1.3% | .8% | 1.2% | 1.6% |
| | Ting | Count | 64 | 215 | 143 | 329 | 173 | 92 | 1016 |
| | | % within Mayor1 | 6.3% | 21.2% | 14.1% | 32.4% | 17.0% | 9.1% | 100.0% |
| | | % within DA 1 | .5% | .6% | .7% | .4% | .4% | 1.4% | .5% |
| | W-In | Count | 11 | 5 | 11 | 1 | 3 | 1 | 32 |
| | | % within Mayor1 | 34.4% | 15.6% | 34.4% | 3.1% | 9.4% | 3.1% | 100.0% |
| | | % within DA 1 | .1% | .0% | .1% | .0% | .0% | .0% | .0% |
| | Yee | Count | 967 | 3699 | 1852 | 5091 | 2138 | 818 | 14565 |
| | | % within Mayor1 | 6.6% | 25.4% | 12.7% | 35.0% | 14.7% | 5.6% | 100.0% |
| | | % within DA 1 | 7.3% | 9.8% | 9.7% | 6.7% | 5.0% | 12.4% | 7.5% |
| Total | | Count | 13279 | 37799 | 19129 | 75711 | 42832 | 6573 | 195323 |
| | | % within Mayor1 | 6.8% | 19.4% | 9.8% | 38.8% | 21.9% | 3.4% | 100.0% |
| | | % within DA 1 | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |

Table 8: Mayor first choice vs Sheriff first choice Crosstab

| | | | Sheriff1 | | | | | Total |
|----------|-------------------|-------------------|----------|--------|-----------|----------|--------|--------|
| | | | Null | Cunnie | Mirkarimi | Miyamoto | Wong | |
| Mayor1 | Null | Count | 988 | 405 | 509 | 406 | 114 | 2422 |
| | | % within Mayor1 | 40.8% | 16.7% | 21.0% | 16.8% | 4.7% | 100.0% |
| | | % within Sheriff1 | 7.0% | .8% | .7% | .8% | 1.0% | 1.2% |
| | Adachi | Count | 917 | 2832 | 3539 | 4670 | 467 | 12425 |
| | | % within Mayor1 | 7.4% | 22.8% | 28.5% | 37.6% | 3.8% | 100.0% |
| | | % within Sheriff1 | 6.5% | 5.6% | 5.1% | 9.5% | 4.1% | 6.4% |
| | AliotoPier | Count | 442 | 2421 | 1565 | 1998 | 226 | 6652 |
| | | % within Mayor1 | 6.6% | 36.4% | 23.5% | 30.0% | 3.4% | 100.0% |
| | | % within Sheriff1 | 3.1% | 4.8% | 2.2% | 4.0% | 2.0% | 3.4% |
| | Ascarrunz | Count | 47 | 135 | 108 | 187 | 60 | 537 |
| | | % within Mayor1 | 8.8% | 25.1% | 20.1% | 34.8% | 11.2% | 100.0% |
| | | % within Sheriff1 | .3% | .3% | .2% | .4% | .5% | .3% |
| | Avalos | Count | 1579 | 3317 | 28464 | 3085 | 422 | 36867 |
| | | % within Mayor1 | 4.3% | 9.0% | 77.2% | 8.4% | 1.1% | 100.0% |
| | | % within Sheriff1 | 11.1% | 6.5% | 40.9% | 6.2% | 3.7% | 18.9% |
| | Baum | Count | 93 | 137 | 1167 | 197 | 56 | 1650 |
| | | % within Mayor1 | 5.6% | 8.3% | 70.7% | 11.9% | 3.4% | 100.0% |
| | | % within Sheriff1 | .7% | .3% | 1.7% | .4% | .5% | .8% |
| | Chiu | Count | 1324 | 6317 | 4928 | 4274 | 978 | 17821 |
| | | % within Mayor1 | 7.4% | 35.4% | 27.7% | 24.0% | 5.5% | 100.0% |
| | | % within Sheriff1 | 9.3% | 12.4% | 7.1% | 8.6% | 8.7% | 9.1% |
| | Currier | Count | 23 | 77 | 60 | 69 | 20 | 249 |
| | | % within Mayor1 | 9.2% | 30.9% | 24.1% | 27.7% | 8.0% | 100.0% |
| | | % within Sheriff1 | .2% | .2% | .1% | .1% | .2% | .1% |
| | Dufty | Count | 581 | 2855 | 3376 | 2138 | 138 | 9088 |
| | | % within Mayor1 | 6.4% | 31.4% | 37.1% | 23.5% | 1.5% | 100.0% |
| | | % within Sheriff1 | 4.1% | 5.6% | 4.9% | 4.3% | 1.2% | 4.7% |
| Hall | Count | 381 | 2271 | 744 | 3269 | 204 | 6869 | |
| | % within Mayor1 | 5.5% | 33.1% | 10.8% | 47.6% | 3.0% | 100.0% | |
| | % within Sheriff1 | 2.7% | 4.5% | 1.1% | 6.6% | 1.8% | 3.5% | |
| Herrera | Count | 1065 | 8054 | 8303 | 4040 | 277 | 21739 | |
| | % within Mayor1 | 4.9% | 37.0% | 38.2% | 18.6% | 1.3% | 100.0% | |
| | % within Sheriff1 | 7.5% | 15.9% | 11.9% | 8.2% | 2.5% | 11.1% | |
| Lawrence | Count | 32 | 123 | 56 | 119 | 53 | 383 | |
| | % within Mayor1 | 8.4% | 32.1% | 14.6% | 31.1% | 13.8% | 100.0% | |
| | % within Sheriff1 | .2% | .2% | .1% | .2% | .5% | .2% | |
| Lee | Count | 5343 | 17455 | 11104 | 18959 | 6618 | 59479 | |
| | % within Mayor1 | 9.0% | 29.3% | 18.7% | 31.9% | 11.1% | 100.0% | |
| | % within Sheriff1 | 37.6% | 34.4% | 16.0% | 38.4% | 58.6% | 30.5% | |

| | | | Null | Cunnie | Mirkarimi | Miyamoto | Wong | Total |
|-------|-------------------|-------------------|--------|--------|-----------|----------|--------|--------|
| | Pang | Count | 54 | 58 | 72 | 119 | 141 | 444 |
| | | % within Mayor1 | 12.2% | 13.1% | 16.2% | 26.8% | 31.8% | 100.0% |
| | | % within Sheriff1 | .4% | .1% | .1% | .2% | 1.2% | .2% |
| | Rees | Count | 271 | 1060 | 648 | 999 | 107 | 3085 |
| | | % within Mayor1 | 8.8% | 34.4% | 21.0% | 32.4% | 3.5% | 100.0% |
| | | % within Sheriff1 | 1.9% | 2.1% | .9% | 2.0% | .9% | 1.6% |
| | Ting | Count | 78 | 188 | 269 | 362 | 119 | 1016 |
| | | % within Mayor1 | 7.7% | 18.5% | 26.5% | 35.6% | 11.7% | 100.0% |
| | | % within Sheriff1 | .5% | .4% | .4% | .7% | 1.1% | .5% |
| W-In | Count | 11 | 11 | 7 | 2 | 1 | 32 | |
| | % within Mayor1 | 34.4% | 34.4% | 21.9% | 6.3% | 3.1% | 100.0% | |
| | % within Sheriff1 | .1% | .0% | .0% | .0% | .0% | .0% | |
| Yee | Count | 967 | 3097 | 4682 | 4519 | 1300 | 14565 | |
| | % within Mayor1 | 6.6% | 21.3% | 32.1% | 31.0% | 8.9% | 100.0% | |
| | % within Sheriff1 | 6.8% | 6.1% | 6.7% | 9.1% | 11.5% | 7.5% | |
| Total | Count | 14196 | 50813 | 69601 | 49412 | 11301 | 195323 | |
| | % within Mayor1 | 7.3% | 26.0% | 35.6% | 25.3% | 5.8% | 100.0% | |
| | % within Sheriff1 | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | |

Table 9: DA first choice vs Sheriff first choice Crosstab

| | | | Sheriff1 | | | | | |
|--------|------|-------------------|----------|--------|-----------|----------|--------|--------|
| | | | Null | Cunnie | Mirkarimi | Miyamoto | Wong | Total |
| DA 1 | Null | Count | 8489 | 1065 | 1704 | 1532 | 489 | 13279 |
| | | % within DA 1 | 63.9% | 8.0% | 12.8% | 11.5% | 3.7% | 100.0% |
| | | % within Sheriff1 | 59.8% | 2.1% | 2.4% | 3.1% | 4.3% | 6.8% |
| Bock | | Count | 1524 | 9102 | 13053 | 11048 | 3072 | 37799 |
| | | % within DA 1 | 4.0% | 24.1% | 34.5% | 29.2% | 8.1% | 100.0% |
| | | % within Sheriff1 | 10.7% | 17.9% | 18.8% | 22.4% | 27.2% | 19.4% |
| Fazio | | Count | 640 | 5448 | 4409 | 7531 | 1101 | 19129 |
| | | % within DA 1 | 3.3% | 28.5% | 23.0% | 39.4% | 5.8% | 100.0% |
| | | % within Sheriff1 | 4.5% | 10.7% | 6.3% | 15.2% | 9.7% | 9.8% |
| Gascon | | Count | 2493 | 29693 | 17945 | 22515 | 3065 | 75711 |
| | | % within DA 1 | 3.3% | 39.2% | 23.7% | 29.7% | 4.0% | 100.0% |
| | | % within Sheriff1 | 17.6% | 58.4% | 25.8% | 45.6% | 27.1% | 38.8% |
| Onok | | Count | 859 | 4952 | 31701 | 4489 | 831 | 42832 |
| | | % within DA 1 | 2.0% | 11.6% | 74.0% | 10.5% | 1.9% | 100.0% |
| | | % within Sheriff1 | 6.1% | 9.7% | 45.5% | 9.1% | 7.4% | 21.9% |
| Trinh | | Count | 191 | 553 | 789 | 2297 | 2743 | 6573 |
| | | % within DA 1 | 2.9% | 8.4% | 12.0% | 34.9% | 41.7% | 100.0% |
| | | % within Sheriff1 | 1.3% | 1.1% | 1.1% | 4.6% | 24.3% | 3.4% |
| Total | | Count | 14196 | 50813 | 69601 | 49412 | 11301 | 195323 |
| | | % within DA 1 | 7.3% | 26.0% | 35.6% | 25.3% | 5.8% | 100.0% |
| | | % within Sheriff1 | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |

Finally, being able to track individual voter behavior across the three citywide races affords us a unique opportunity to study voting patterns in an RCV setting. In the coming months, the McCarthy Center will be undertaking detailed research of how people utilize their choices in RCV, in terms of ethnicity and geography. Here, we show one piece of that analysis.

Map 5 displays the percentage of voters in each precinct who chose only one candidate in all three races. This is a bullet-voting index of sorts, around 9% of total voters. The percentage is lowest in the progressive parts of the city, and highest in the south eastern neighborhoods. Further research is needed to discern why these voters consistently choose to bullet vote. However the existence of these data allow for greater inferences about voter behavior than before.

Map 5: Percentage of precinct where the votes choice only one choice for each race

