TERRY W. REILLY

September 4, 2009

Councilmember Patrick O'Donnell
333 W. Ocean Blvd. 14th Floor
Long Beach, CA 90802

Dear Councilmember O'Donnell,

Much has been made about the constitutionality and anomalies of Ranked Choice Voting (IRV). There is a huge body of evidence which describes what is know as the non-monotonicity effect.   Plenty of examples and academic papers have been written describing this problem. [1] [2] Experts have defined Monotonicity as:

Monotonicity - as related to the ranking of candidates as:

      Ranking a candidate higher, without changing the ordering of other candidates, can never cause the candidate to loose, nor ranking a candidate lower can never cause that candidate to win.

IRV (also known as Instant Runoff Voting - IRV) is Non-Monotonic. This poses severe problems arising in a candidate's and supporter's get-out-the-vote efforts (GOTV) as you never know when is the best time to stop, or how you should ask your supporters to rank you. In addition, when voters understand this complication, the foundation of our voting principals where a vote elevates that choice is no longer valid and puts the whole election process suspect.

We can look at this several ways:

3 candidates: Patrick, Dennis, Rob

Number of voters 100 (can also be used as % or multiplied by 100 to accurately reflect an election,)
Showing two preferences is just for simplicity as the example will go no further than one vote transfer.

Consider it on a single election:. This is how it looks prior to a big GOTV effort on Patrick's part.

Number of votes	1st Preference	2nd Preference
39	Patrick	Dennis
35	Dennis	Rob
26	Rob	Patrick

With IRV, the candidate with the lowest votes is eliminated and the voters second choice is transferred to that candidate.

Number of votes	1st Preference	2nd Preference
39	Patrick	Dennis
35	Dennis	Rob
26		Patrick

Therefore, Rob is eliminated, thus transferring 26 votes to Patrick. 39+26 = 65 for Patrick, 35 for Dennis. Patrick Wins.

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[1] Non-Monotonicity and Instant Runoff Voting.pdf

[2] Irish Presidential Election of 1990.pdf

But let's say Patrick feels Dennis and he are neck and neck, so prior to the election, he goes to a stronghold of Dennis' support and meets with them, convincing them that he's the best choice, says Dennis a great guy that they could put 2nd. He is successful in getting more votes from Dennis supporters (who rank Dennis 2nd). On election day it ends up looking like this:

Number of votes	1st Preference	2nd Preference
49	Patrick	Dennis
25	Dennis	Rob
26	Rob	Patrick

With IRV, the candidate with the lowest votes is eliminated and the voters second choice is transferred to that candidate.

Number of votes	1st Preference	2nd Preference
49	Patrick	Dennis
25		Rob
26	Rob	Patrick

Dennis is eliminated, thus transferring 25 votes to Rob. 26+25 = 51 for Rob, 49 for Patrick. **Rob wins**

If Patrick would have received 2 less converts from Dennis, he would have won (Dennis would have 27, no longer being the candidate with lowest votes, and Rob's votes would have transferred to Patrick

This can also happen on a Second Term Election:

Suppose the votes are cast as follows:

Number of votes	1st Preference	2nd Preference
39	Patrick	Dennis
35	Dennis	Rob
26	Rob	Patrick

Number of votes	1st Preference	2nd Preference
39	Patrick	Dennis
35	Dennis	Rob
26		Patrick

39+26 = 65 for Patrick   35 for Dennis. Patrick is Elected.

Patrick serves a full term and does a REALLY GREAT JOB!

Let's say in the next election, he has the same competitors (typical)

He has done such a great job in office that he persuades 10 voters who previously had Dennis as their first choice, that he is better and they rank Patrick as their 1st preference and Dennis as their 2nd. This is how the election would look:

Number of votes	1st Preference	2nd Preference
49	Patrick	Dennis
25	Dennis	Rob
26	Rob	Patrick

Because of the support that Dennis lost due to more voters liking Patrick as 1st instead (and raking Dennis 2nd) Dennis is eliminated, thus transferring 25 votes to Rob.

Number of votes	1st Preference	2nd Preference
49	Patrick	Dennis
25		Rob
26	Rob	Patrick

26+25 = 51 for Rob, 49 for Patrick. **Rob wins**

Patrick looses because he got more people to support him.

There are many more complex examples, with multiple matchups. But the fact it can happen on such a simple scale is quite revealing. This has happened in Aspen and will soon be the subject of a Federal Lawsuit.[3] FaIRVote, the nations leading proponent of IRV admitted this method is non-monotonic in the recent Minneapolis Federal Lawsuit[4]. The decision allows Minneapolis to use IRV as the suit was dismissed on the facial claim, but it did not address the constitutional issues, and allowed for future challenges one an example arrives. Hence the Aspen lawsuit.

Some will argue a two election primary has the same effect, but an election is an election. A singular event, and should be treated as such. You win or loose that election by getting more or less votes It should be that simple.

Some say the non-monotonicity effect is hidden and because of that fact it shouldn't be a problem, the candidate does not know their standing before the election, so "gaming" the system would be impossible. It's true it is hidden and that is what makes it even more troubling.

With IRV, for me to know HOW my vote will help my candidate, I will need to know here he is in the standings and how all the other people voted. Only then, will I know if my vote is helping or hurting the candidate. Not knowing is the worst part of it. Your vote, under NO circumstances, should ever harm your candidate. In addition, no candidate should ever fear gaining as much support as he possibly can and having it hurt his standing. IRV doesn't pass this test.

Sincerely yours,

Terry W. Reilly

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[3] Minnesota Group takes aim at Aspen's election.pdf

[4] Minnesota Supreme Court Admits Non-Monotonicity.pdf