

Date: 11/25/03

To: Honorable Mayor and Members of the City Council
From: Gordon Wozniak

Subject: Instant Runoff Voting

RECOMMENDATION: Council postpone consideration of Instant Runoff Voting (IRV) until November 2004 to give the Council time to research the impact of IRV on the following issues: 1) voter participation, 2) spoiled ballots, 3)wasted ballots, 4) voter confusion, 5) voting security and audit trail, 6)applicability to School and Rent Board elections, 7) how a majority is defined.

FISCAL IMPACTS OF RECOMMENDATION:

Not putting an IRV measure on the March 2004 ballot will save the City \$10,000.

BACKGROUND

Voting systems play a very important role in sustaining our democracy and should not be changed simply to go along with the latest fashion. Although our present plurality voting system has many faults, it has one overwhelming advantage: It is simple enough that the majority of people can understand it. As is often said, our system was "designed by geniuses to be run by idiots." All the alternative voting systems have a common devil, complexity. They utilize complex mathematical algorithms to massage voter ballots preferences through many rounds until an eventual winner is declared. The average voter will not be able to follow this complex process and is likely to lose faith in voting systems that produce counterintuitive results.

NO PERFECT VOTING SYSTEM

In 1952, a Stanford professor proved that no voting system is completely free from counterintuitive outcomes.

WINNERS CAN BE DETERMINED BY WHICH VOTING SYSTEM IS USED

In some elections, in fact, any one of the candidates can be the winner, depending on what voting system is being used. In three-candidate elections, depending on the voting system, more than two-thirds of all possible configurations of voters' preferences will yield different outcomes. An important example is the 1860 presidential election. Lincoln was a polarizing figure, popular with many Northerners but abhorred by many Southerners. Stephen Douglas, Lincoln's closest competitor, was more broadly popular, and although he didn't get as many first-place rankings as Lincoln did, historians hold that he was nearly everyone's second choice. Two voting system experts have calculated that if almost any other voting system had been used, history books would refer to President Douglas, not President Lincoln. If it weren't for the plurality system, Abraham Lincoln might never have become President.

RECEIVED AT
COUNCIL MEETING OF:

NOV 25 2003

OFFICE OF THE CITY CLERK
CITY OF BERKELEY

MANY FORMS OF IRV

Australia

The most well-established and best known example of a form of IRV is used in Australia. The system was introduced by the Nationalist government in Australia in 1918 to replace the existing first-past-the-post (FPTP) system after it became clear that several aligned conservative candidates all standing in the same electorate could split their vote between them under the FPTP, thus handing victory to the less popular but more disciplined labor Party forces.

There is an important difference between ‘full preferential’ and ‘optional preferential’ versions of IRV. If the decision to mark preferences beyond the first choice is left to the voter, rather than made compulsory, then the winning candidate must gain an absolute majority of votes in the count, but not necessarily a majority of those cast. A ballot where preferences have not or cannot be assigned to a continuing candidate are said to ‘exhaust’. By contrast, in Australia it is a legislative requirement for all preferences to be marked to cast a valid ballot. A major consequence of this is that parties distribute ‘how to vote’ cards to their supporters on voting day, giving them the party’s preferred preference ordering for all candidates which then can then be copied on to the ballot by the electors, large proportions of who do just that.

Optional preference IRV is currently used for state elections in New South Wales and Queensland, where it was considered that full preferential voting forced voters to express preferences for candidates about whom that may know little of nothing. The rate of ‘plumping’ for one candidate only (bullet balloting), without making subsequent preferences, has increased over time. The decision to express preferences also appears to be closely related to the recommendations made by parties on their ‘how-to-vote’ cards. In a survey conducted at two by-elections in 1992, fully 75% of electors followed party voting directions, resulting in bullet balloting rates of 43% in one district (Gordon) and 63% in another (Kuring-gai). Labor voters are considerably more likely to bullet ballot than supporters of the coalition parties.

London

In 2000 London used a modified version of IRV to elect its mayor. In this form, voters can only rank first and second choice candidates – even when, as in this election, there were four or more strong candidates. If no candidate receives a majority of the first choice votes, all but the top two candidates are eliminated simultaneously. Ballots that rank eliminated candidates first are then counted for whichever remaining candidate is listed second on each ballot. Ballots which rank another eliminated candidate second are treated as if no second choice was provided.

Livingstone received 667,887 of the first choices (39% of ballots cast). He then received 108,550 second choices from eliminated candidates, giving him a total of 776,427 votes. This total was only 45% of the total ballots cast, but a 58% of the combined votes for the top two candidates making the “runoff”.

Of the 581,761 first choice votes for eliminated candidates (34% of all first choice votes), only 208,253 second choices counted for one of the two remaining candidates (36%). The remaining second choice votes, 373,508 (64%), were wasted because they either listed another eliminated candidate second or were left blank.

1. The votes of 373,508 people (22% of all votes cast) did not help to choose between the top two candidates. These voters either gave their second choice to an eliminated candidate or left it blank.
2. Some 293,000 voters (17%) did not list a second choice candidate.

Looked at from a different perspective, 1,714,072 people voted in the election, but only 78% participated in selecting the winner in the second round! Thus, 22% of the electorate were effectively disenfranchised.

COMPLEXITY

Cambridge

Cambridge, Massachusetts uses a modified form of IRV to select its City Council and School Board in citywide elections. In the 1999 City Council election, 24 candidates ran for 9 seats. 19,161 total ballots were cast of which 384 were invalid, leaving 18,777 valid ballots. The quota to win was established at 1,878 votes, and after 14 rounds of counting, 9 winners emerged and there were 1,875 exhausted ballots.

To illustrate the complexity of establishing winners after 14 rounds of counting, I have attached the results of each round from this election. See attachment A.

San Francisco

Supporters of IRV have stated that it is so simple, even a second grader can figure it out. As a counter example, I attach a sample IRV ballot from the Department of Elections of San Francisco, which has five candidates running for one office and six candidates running for a second office. See attachment B.

CHAOS IN THE POLLING PLACES

Whatever its potential benefits, IRV is prone to one of voting theory's most bewildering paradoxes. If a candidate is in the lead during an election, making a great speech that attracts even more supports to his/her cause shouldn't make him/her lose. But in the IRV system, it can. IRV can create bizarre situations where ranking a candidate higher can actually hurt that person's chances of winning.

SUMMARY

1. There are many forms of instant runoff voting systems, which can give dramatically different results. The present ballot measure does specify which form of IRV would be utilized.
2. There are no forms of IRV that are presently certified by the State of California as legal voting systems.
3. If IRV were to be used in the March 2004 and November 2004 elections, Berkeley would not be allowed to consolidate its election with others in

Alameda County. This would force Berkeley to hold a separate election on a different date at great cost and greatly reduced turnout.

4. Only half of Berkeley's elected offices are proposed to use IRV. Rent and School Board would be excluded.
5. Claims of increased voter participation in IRV are not borne out by London's mayoral election.
6. Due to the increased complexity of a ballot containing IRV and traditional elections, spoiled ballots are likely to be more common.
7. Due to the increased complicity associated with IRV, the security of electronic voting machines and the validity of an election may be impossible to demonstrate.

GENERAL RESULT RECORD PROPORTIONAL REPRESENTATION COUNT
 Conducted in Cambridge, Massachusetts, on November 2 and 3, 1999
 REGULAR MUNICIPAL ELECTION FOR CITY COUNCIL HELD ON NOVEMBER 2, 1999 IN THE CITY OF CAMBRIDGE, MASSACHUSETTS

Attachment A

NUMBER TO BE ELECTED
9

	1ST COUNT	2ND COUNT	3RD COUNT	4TH COUNT	5TH COUNT	6TH COUNT	7TH COUNT
	TRANSFER OF GALLUCCIO SURPLS	TRANSFER OF UNDE R 50	TRANSFER OF DIXON	TRANSFER OF GIACOBBE	TRANSFER OF CHASE	TRANSFER OF WILLIAMSON	
	BALLOTS RESULT	BALLOTS RESULT	BALLOTS RESULT	BALLOTS RESULT	BALLOTS RESULT	BALLOTS RESULT	BALLOTS RESULT
Born, Kathleen Leahy	1662	37 1699	7 1706	10 1716	6 1722	3 1725	9 1734
Braude, James S.	1490	24 1514	10 1524	3 1527	2 1529	0 1529	19 1548
Chase, Jeffrey Jay	107	27 134	10 144	0 144	1 145	-145 0	0 0
Christenson, Charles O.	29	7 36	-36 0	0 0	0 0	0 0	0 0
Davis, Henrietta	1470	38 1508	13 1521	3 1524	5 1529	8 1537	10 1547
Decker, Marjorie C.	1652	20 1672	15 1687	1 1688	6 1694	3 1697	9 1706
Dixon, Vincent Lawrence	50	3 53	2 55	-55 0	0 0	0 0	0 0
Galluccio, Anthony D.	2716	-838 1878	0 1878	0 1878	0 1878	0 1878	0 1878
Giacobbe, Dorothy M.	113	16 129	3 132	4 136	-136 0	0 0	0 0
Goodwin, Bob	813	105 918	3 921	2 923	13 936	1 937	2 939
Hoicka, David	330	2 332	10 342	4 346	3 349	0 349	30 379
Jones, William C.	34	4 38	-38 0	0 0	0 0	0 0	0 0
Maher, David P.	1040	137 1177	5 1182	3 1185	15 1200	47 1247	3 1250
Nidle, Alan Kingfish	42	2 44	-44 0	0 0	0 0	0 0	0 0
Peixoto, Helder	315	35 350	5 355	1 356	1 357	10 367	5 372
Reeves, Kenneth E.	1431	53 1484	5 1489	3 1492	15 1507	2 1509	14 1523
Snowberg, Erik c.	429	4 433	8 441	1 442	3 445	1 446	10 456
Sullivan, Michael A.	1339	180 1519	12 1531	3 1534	24 1558	7 1565	3 1568
Toomey, Timothy J. Jr.	1510	61 1571	12 1583	2 1585	4 1589	3 1592	7 1599
Triantafillou, Katherine	1176	23 1199	6 1205	2 1207	13 1220	2 1222	13 1235
Trumbull, David	536	50 586	11 597	2 599	2 601	38 639	3 642
Williamson, James M.	129	1 130	10 140	1 141	5 146	2 148	-148 0
Winters, Robert	304	7 311	7 318	2 320	0 320	2 322	4 326
Wormwood-Malone, D.	31	2 33	-33 0	0 0	0 0	0 0	0 0
WRITTEN-IN POSITION 1	28	0 28	-28 0	0 0	0 0	0 0	0 0
OTHER POSITIONS	1	0 1	-1 0	0 0	0 0	0 0	0 0
INVALID	384	0 384	0 384	0 384	0 384	0 384	0 384
EXHAUSTED			26 26	8 34	18 52	16 68	7 75
TOTAL	19161	0 19161	0 19161	0 19161	0 19161	0 19161	0 19161

	8TH COUNT	9TH COUNT	10TH COUNT	11TH COUNT	12TH COUNT	13TH COUNT	14TH COUNT
	TRANSFER OF WINTERS	TRANSFER OF PEIXOTO	TRANSFER OF HOICKA	TRANSFER OF SNOWBERG	TRANSFER OF TRUMBULL	TRANSFER OF GOODWIN	TRANSFER OF TRIANTAFILLOU
	BALLOTS RESULT	BALLOTS RESULT	BALLOTS RESULT	BALLOTS RESULT	BALLOTS RESULT	BALLOTS RESULT	BALLOTS RESULT
Born, Kathleen Leahy	57 1791	7 1798	26 1824	54 1878	0 1878	0 1878	0 1878
Braude, James S.	39 1587	6 1593	94 1687	93 1780	32 1812	59 1871	7 1878
Chase, Jeffrey Jay	0 0	0 0	0 0	0 0	0 0	0 0	0 0
Christenson, Charles O.	0 0	0 0	0 0	0 0	0 0	0 0	0 0
Davis, Henrietta	56 1603	8 1611	24 1635	52 1687	40 1727	62 1789	89 1878
Decker, Marjorie C.	35 1741	16 1757	40 1797	55 1852	25 1877	1 1878	0 1878
Dixon, Vincent Lawrence	0 0	0 0	0 0	0 0	0 0	0 0	0 0
Galluccio, Anthony D.	0 1878	0 1878	0 1878	0 1878	0 1878	0 1878	0 1878
Giacobbe, Dorothy M.	0 0	0 0	0 0	0 0	0 0	0 0	0 0
Goodwin, Bob	0 939	16 955	5 960	8 968	29 997	-997 0	0 0
Hoicka, David	4 383	3 386	-386 0	0 0	0 0	0 0	0 0
Jones, William C.	0 0	0 0	0 0	0 0	0 0	0 0	0 0
Maher, David P.	25 1275	36 1311	10 1321	12 1333	241 1574	281 1855	23 1878
Nidle, Alan Kingfish	0 0	0 0	0 0	0 0	0 0	0 0	0 0
Peixoto, Helder	4 376	-376 0	0 0	0 0	0 0	0 0	0 0
Reeves, Kenneth E.	10 1533	17 1550	29 1579	49 1628	21 1649	93 1742	136 1878
Snowberg, Erik c.	22 478	7 485	51 536	-536 0	0 0	0 0	0 0
Sullivan, Michael A.	17 1585	35 1620	11 1631	16 1647	101 1748	130 1878	- 0 1878
Toomey, Timothy J. Jr.	6 1605	83 1688	12 1700	17 1717	52 1769	109 1878	0 1878
Triantafillou, Katherine	18 1253	15 1268	36 1304	40 1344	14 1358	70 1428	-1428 0
Trumbull, David	16 658	53 711	7 718	38 756	-756 0	0 0	0 0
Williamson, James M.	0 0	0 0	0 0	0 0	0 0	0 0	0 0
Winters, Robert	-326 0	0 0	0 0	0 0	0 0	0 0	0 0
Wormwood-Malone, D.	0 0	0 0	0 0	0 0	0 0	0 0	0 0
WRITTEN-IN POSITION 1	0 0	0 0	0 0	0 0	0 0	0 0	0 0
OTHER POSITIONS	0 0	0 0	0 0	0 0	0 0	0 0	0 0
INVALID	0 384	0 384	0 384	0 384	0 384	0 384	0 384
EXHAUSTED	17 92	74 106	41 207	102 309	201 510	192 702	1173 1875
TOTAL	0 19161	0 19161	0 19161	0 19161	0 19161	0 19161	0 19161

Total ballots cast
19161
 Invalid ballots
384
 Valid ballots
18777
 Quota
1878

CANDIDATES IN ORDER OF ELECTION

- 1 Galluccio, Anthony
- 2 Born, Kathleen Leahy
- 3 Decker, Marjorie
- 4 Sullivan, Michael
- 5 Toomey, Timothy
- 6 Braude, James
- 7 Davis, Henrietta
- 8 Reeves, Kenneth
- 9 Maher, David

Director of the Count _____

Auditor _____

Attachment B

DIRECTOR OF RECREATION DIRECTOR DE RECREACION 康樂主任 FIRST CHOICE SELECCIÓN PRIMERO 第一選擇 Vote for One/Vote por Uno/請選一名	THIRD CHOICE SELECCIÓN TERCERA 第二選擇 Vote for One / Must be Different Than First and Second Choice Vote por Uno / Deberá Ser Diferente de Su Primera y Segunda Selección 請選一名/ 不能與第一和第二選擇相同	SECOND CHOICE SELECCIÓN SEGUNDO 第二選擇 Vote for One / Must Be Different Than First Choice Vote por Uno / Deberá Ser Diferente de Su Primera Selección 請選一名/不能與第一選擇相同
SUSAN B. ANTHONY ATTORNEY ABOGADA 蘇珊·安東尼 律師	SUSAN B. ANTHONY ATTORNEY ABOGADA 蘇珊·安東尼 律師	GEORGE JESSEL VENTRILOQUIST 喬治·杰西爾 口技-木偶表演者
ANDREW CARNEGIE STATE SENATOR SENADOR ESTATAL 安德魯·卡奈吉 州參議員	ANDREW CARNEGIE STATE SENATOR SENADOR ESTATAL 安德魯·卡奈吉 州參議員	CAROLE LOMBARD INCUMBENT TITULAR 卡羅琳·倫巴 在任委員
MAMIE EISENHOWER ARCHITECT ARQUITECTA 梅密·愛森霍華德 建築師	MAMIE EISENHOWER ARCHITECT ARQUITECTA 梅密·愛森霍華德 建築師	DOLLY MADISON BUSINESSWOMAN MUJER DE NEGOCIOS 多莉·馬德森 女商人
WILLIAM R. HEARST PUBLISHER PUBLICADOR 威廉·赫士 出版人	WILLIAM R. HEARST PUBLISHER PUBLICADOR 威廉·赫士 出版人	ELEANOR ROOSEVELT INCUMBENT TITULAR 艾莉諾·羅斯福 在任委員
FRANCIS SCOTT KEY PROFESSOR PROFESOR 弗朗西斯·斯科特·淇 教授	FRANCIS SCOTT KEY PROFESSOR PROFESOR 弗朗西斯·斯科特·淇 教授	BILLY ROSE CONSULTANT ASESOR 比利·羅斯 顧問
WRITE-IN / NO LISTADO / 寫入	WRITE-IN / NO LISTADO / 寫入	WRITE-IN / NO LISTADO / 寫入
SECOND CHOICE SELECCIÓN SEGUNDO 第二選擇 Vote for One / Must Be Different Than First Choice Vote por Uno / Deberá Ser Diferente de Su Primera Selección 請選一名/不能與第一選擇相同	DIRECTOR OF ENTERTAINMENT DIRECTOR DE ENTRETENIMIENTO 娛樂主任 FIRST CHOICE SELECCIÓN PRIMERO 第一選擇 Vote for One/Vote por Uno/請選一名	THIRD CHOICE SELECCIÓN TERCERA 第二選擇 Vote for One / Must be Different Than First and Second Choice Vote por Uno / Deberá Ser Diferente de Su Primera y Segunda Selección 請選一名/ 不能與第一和第二選擇相同
SUSAN B. ANTHONY ATTORNEY ABOGADA 蘇珊·安東尼 律師	GEORGE JESSEL VENTRILOQUIST 喬治·杰西爾 口技-木偶表演者	GEORGE JESSEL VENTRILOQUIST 喬治·杰西爾 口技-木偶表演者
ANDREW CARNEGIE STATE SENATOR SENADOR ESTATAL 安德魯·卡奈吉 州參議員	CAROLE LOMBARD INCUMBENT TITULAR 卡羅琳·倫巴 在任委員	GEORGE JESSEL VENTRILOQUIST 喬治·杰西爾 口技-木偶表演者
MAMIE EISENHOWER ARCHITECT ARQUITECTA 梅密·愛森霍華德 建築師	DOLLY MADISON BUSINESSWOMAN MUJER DE NEGOCIOS 多莉·馬德森 女商人	CAROLE LOMBARD INCUMBENT TITULAR 卡羅琳·倫巴 在任委員
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FRANCIS SCOTT KEY PROFESSOR PROFESOR 弗朗西斯·斯科特·淇 教授	BILLY ROSE CONSULTANT ASESOR 比利·羅斯 顧問	ELEANOR ROOSEVELT INCUMBENT TITULAR 艾莉諾·羅斯福 在任委員
WRITE-IN / NO LISTADO / 寫入	WRITE-IN / NO LISTADO / 寫入	WRITE-IN / NO LISTADO / 寫入
WRITE-IN / NO LISTADO / 寫入	WRITE-IN / NO LISTADO / 寫入	WRITE-IN / NO LISTADO / 寫入
WRITE-IN / NO LISTADO / 寫入	WRITE-IN / NO LISTADO / 寫入	WRITE-IN / NO LISTADO / 寫入

VOTE BOTH SIDES OF EACH BALLOT
 VOTE AMBOS LADOS DE CADA BALOTA
 請在每張選票前後兩面投票