

**Cost of new voting equipment - Bronx**  
 (by pollsite and number of reg. voters, assumes 1% or 2% use audio, sip&puff, or rocker paddles)

Teresa Hommel, WheresThePaper.org, 11/6/06

**Bronx:** How many machines are needed, if number of reg. voters served per machine is:

Page	SiteID	Voters	DRE 200	DRE 300	DRE 400	DRE 500	DRE 600	OpScan 2000	OpScan 2500	OpScan 3000	BMD* 1%, 37min	BMD* 2%, 37min
X078	00030	3145	16	11	8	7	6	2	2	2	2	4
	00036	619	4	3	2	2	2	1	1	1	1	1
	10024	313	2	2	1	1	1	1	1	1	1	1
	10066	2521	13	9	7	6	5	2	2	1	2	3
	10071	1227	7	5	4	3	3	1	1	1	1	2
X079	10072	3347	17	12	9	7	6	2	2	2	3	4
	10073	1268	7	5	4	3	3	1	1	1	1	2
	10074	2869	15	10	8	6	5	2	2	1	2	3
	10075	1977	10	7	5	4	4	1	1	1	2	2
	10076	2607	14	9	7	6	5	2	2	1	2	3
	X080	10077	2178	11	8	6	5	4	2	1	1	2
10078		4004	21	14	11	9	7	3	2	2	3	4
10080		694	4	3	2	2	2	1	1	1	1	1
10084		1219	7	5	4	3	3	1	1	1	1	2
10086		1904	10	7	5	4	4	1	1	1	2	2
X081		10087	1272	7	5	4	3	3	1	1	1	1
	10090	1771	9	6	5	4	3	1	1	1	2	2
	10091	923	5	4	3	2	2	1	1	1	1	1
	10092	3642	19	13	10	8	7	2	2	2	3	4
	10097	903	5	4	3	2	2	1	1	1	1	1
	X082	10137	172	1	1	1	1	1	1	1	1	1
10207		2544	13	9	7	6	5	2	2	1	2	3
10210		3839	20	13	10	8	7	2	2	2	3	4
10212		2008	11	7	6	5	4	2	1	1	2	2
10230		719	4	3	2	2	2	1	1	1	1	1
X083		10302	4543	23	16	12	10	8	3	2	2	3
	10312	2121	11	8	6	5	4	2	1	1	2	3
	10313	788	4	3	2	2	2	1	1	1	1	1
	10354	1596	8	6	4	4	3	1	1	1	2	2
X084	10359	4818	25	17	13	10	9	3	2	2	4	5

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Page	SiteID	Voters	DRE 200	DRE 300	DRE 400	DRE 500	DRE 600	OpScan 2000	OpScan 2500	OpScan 3000	BMD* 1%, 37min	BMD* 2%, 37min
	10420	101	1	1	1	1	1	1	1	1	1	1
	10421	123	1	1	1	1	1	1	1	1	1	1
	10484	99	1	1	1	1	1	1	1	1	1	1
	10512	1054	6	4	3	3	2	1	1	1	1	2
X085	10543	882	5	3	3	2	2	1	1	1	1	1
	10544	4110	21	14	11	9	7	3	2	2	3	5
	10546	2382	12	8	6	5	4	2	1	1	2	3
	10588	1371	7	5	4	3	3	1	1	1	1	2
	10591	2863	15	10	8	6	5	2	2	1	2	3
X086	10601	3627	19	13	10	8	7	2	2	2	3	4
	10603	1934	10	7	5	4	4	1	1	1	2	2
	10616	1045	6	4	3	3	2	1	1	1	1	2
	10628	2068	11	7	6	5	4	2	1	1	2	3
X087	10632	2286	12	8	6	5	4	2	1	1	2	3
	10639	1534	8	6	4	4	3	1	1	1	1	2
	10652	1902	10	7	5	4	4	1	1	1	2	2
	10686	192	1	1	1	1	1	1	1	1	1	1
	10688	172	1	1	1	1	1	1	1	1	1	1
X088	10690	439	3	2	2	1	1	1	1	1	1	1
	10712	1541	8	6	4	4	3	1	1	1	1	2
	10713	1840	10	7	5	4	4	1	1	1	2	2
	10715	2619	14	9	7	6	5	2	2	1	2	3
	10817	3208	17	11	9	7	6	2	2	2	3	4
X089	10856	1386	7	5	4	3	3	1	1	1	1	2
	10859	1048	6	4	3	3	2	1	1	1	1	2
	10949	1536	8	6	4	4	3	1	1	1	1	2
	10959	959	5	4	3	2	2	1	1	1	1	1
	11004	1491	8	5	4	3	3	1	1	1	1	2
X090	11006	1998	10	7	5	4	4	1	1	1	2	2
	11009	1523	8	6	4	4	3	1	1	1	1	2
	11015	1516	8	6	4	4	3	1	1	1	1	2
	11016	5918	30	20	15	12	10	3	3	2	4	6
	11021	849	5	3	3	2	2	1	1	1	1	1
X091	11022	919	5	4	3	2	2	1	1	1	1	1
	11023	865	5	3	3	2	2	1	1	1	1	1
	X0002	541	3	2	2	2	1	1	1	1	1	1

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Page	SiteID	Voters	DRE 200	DRE 300	DRE 400	DRE 500	DRE 600	OpScan 2000	OpScan 2500	OpScan 3000	BMD* 1%, 37min	BMD* 2%, 37min
	X0003	3504	18	12	9	8	6	2	2	2	3	4
	X0004	1205	7	5	4	3	3	1	1	1	1	2
X092	X0005	3554	18	12	9	8	6	2	2	2	3	4
	X0006	1730	9	6	5	4	3	1	1	1	2	2
	X0007	2821	15	10	8	6	5	2	2	1	2	3
	X0008	5023	26	17	13	11	9	3	3	2	4	5
X093	X0009	1191	6	4	3	3	2	1	1	1	1	2
	X0013	6433	33	22	17	13	11	4	3	3	5	7
	X0015	2055	11	7	6	5	4	2	1	1	2	3
	X0017	4325	22	15	11	9	8	3	2	2	3	5
X094	X0018	752	4	3	2	2	2	1	1	1	1	1
	X0019	4116	21	14	11	9	7	3	2	2	3	5
	X0020	4540	23	16	12	10	8	3	2	2	3	5
	X0021	1213	7	5	4	3	3	1	1	1	1	2
	X0022	2045	11	7	6	5	4	2	1	1	2	3
X095	X0023	4624	24	16	12	10	8	3	2	2	3	5
	X0024	6340	32	22	16	13	11	4	3	3	5	7
	X0025	4215	22	15	11	9	8	3	2	2	3	5
	X0026	2155	11	8	6	5	4	2	1	1	2	3
X096	X0027	1789	9	6	5	4	3	1	1	1	2	2
	X0028	4886	25	17	13	10	9	3	2	2	4	5
	X0032	4125	21	14	11	9	7	3	2	2	3	5
	X0033	575	3	2	2	2	1	1	1	1	1	1
X097	X0034	6331	32	22	16	13	11	4	3	3	5	7
	X0035	8004	41	27	21	17	14	5	4	3	6	8
	X0037	3093	16	11	8	7	6	2	2	2	2	4
X098	X0038	496	3	2	2	1	1	1	1	1	1	1
	X0039	3774	19	13	10	8	7	2	2	2	3	4
	X0040	2908	15	10	8	6	5	2	2	1	2	3
	X0041	2659	14	9	7	6	5	2	2	1	2	3
	X0042	2351	12	8	6	5	4	2	1	1	2	3
X099	X0043	3702	19	13	10	8	7	2	2	2	3	4
	X0044	1695	9	6	5	4	3	1	1	1	2	2
	X0051	4172	21	14	11	9	7	3	2	2	3	5
	X0052	4129	21	14	11	9	7	3	2	2	3	5
X100	X0053	4858	25	17	13	10	9	3	2	2	4	5

**Bronx:**

How many machines are needed, if number of reg. voters served per machine is:

Page	SiteID	Voters	DRE 200	DRE 300	DRE 400	DRE 500	DRE 600	OpScan 2000	OpScan 2500	OpScan 3000	BMD* 1%, 37min	BMD* 2%, 37min
	X0055	461	3	2	2	1	1	1	1	1	1	1
	X0057	1423	8	5	4	3	3	1	1	1	1	2
	X0059	8472	43	29	22	17	15	5	4	3	6	9
X101	X0060	2455	13	9	7	5	5	2	1	1	2	3
	X0061	3250	17	11	9	7	6	2	2	2	3	4
	X0062	6110	31	21	16	13	11	4	3	3	4	7
	X0063	2644	14	9	7	6	5	2	2	1	2	3
X102	X0065	3668	19	13	10	8	7	2	2	2	3	4
	X0066	4171	21	14	11	9	7	3	2	2	3	5
	X0067	2823	15	10	8	6	5	2	2	1	2	3
	X0068	4020	21	14	11	9	7	3	2	2	3	4
X103	X0069	1041	6	4	3	3	2	1	1	1	1	2
	X0070	1473	8	5	4	3	3	1	1	1	1	2
	X0071	4112	21	14	11	9	7	3	2	2	3	5
	X0074	1656	9	6	5	4	3	1	1	1	2	2
	X0075	2530	13	9	7	6	5	2	2	1	2	3
X104	X0076	5744	29	20	15	12	10	3	3	2	4	6
	X0077	3548	18	12	9	8	6	2	2	2	3	4
	X0078	1897	10	7	5	4	4	1	1	1	2	2
	X0079	3264	17	11	9	7	6	2	2	2	3	4
X105	X0080	2040	11	7	6	5	4	2	1	1	2	3
	X0081	2934	15	10	8	6	5	2	2	1	2	3
	X0083	2297	12	8	6	5	4	2	1	1	2	3
	X0084	2969	15	10	8	6	5	2	2	1	2	3
	X0085	1403	8	5	4	3	3	1	1	1	1	2
X106	X0086	1423	8	5	4	3	3	1	1	1	1	2
	X0087	1346	7	5	4	3	3	1	1	1	1	2
	X0088	496	3	2	2	1	1	1	1	1	1	1
	X0091	5158	26	18	13	11	9	3	3	2	4	6
X107	X0092	8587	43	29	22	18	15	5	4	3	6	9
	X0093	7318	37	25	19	15	13	4	3	3	5	8
	X0094	2617	14	9	7	6	5	2	2	1	2	3
X108	X0095	1807	10	7	5	4	4	1	1	1	2	2
	X0096	2272	12	8	6	5	4	2	1	1	2	3
	X0097	1138	6	4	3	3	2	1	1	1	1	2
	X0098	2156	11	8	6	5	4	2	1	1	2	3

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X109	X0101	3057	16	11	8	7	6	2	2	2	2	4
	X0103	2886	15	10	8	6	5	2	2	1	2	3
	X0104	3548	18	12	9	8	6	2	2	2	3	4
	X0108	1903	10	7	5	4	4	1	1	1	2	2
X110	X0109	1987	10	7	5	4	4	1	1	1	2	2
	X0110	1763	9	6	5	4	3	1	1	1	2	2
	X0111	4943	25	17	13	10	9	3	2	2	4	5
	X0112	1853	10	7	5	4	4	1	1	1	2	2
X111	X0113	1307	7	5	4	3	3	1	1	1	1	2
	X0114	6932	35	24	18	14	12	4	3	3	5	7
	X0116	1048	6	4	3	3	2	1	1	1	1	2
	X0117	2254	12	8	6	5	4	2	1	1	2	3
X112	X0118	4760	24	16	12	10	8	3	2	2	4	5
	X0121	3240	17	11	9	7	6	2	2	2	3	4
	X0122	2280	12	8	6	5	4	2	1	1	2	3
	X0126	4370	22	15	11	9	8	3	2	2	3	5
X113	X0127	3374	17	12	9	7	6	2	2	2	3	4
	X0128	1620	9	6	5	4	3	1	1	1	2	2
	X0129	2781	14	10	7	6	5	2	2	1	2	3
	X0131	715	4	3	2	2	2	1	1	1	1	1
	X0132	1860	10	7	5	4	4	1	1	1	2	2
X114	X0133	4229	22	15	11	9	8	3	2	2	3	5
	X0134	471	3	2	2	1	1	1	1	1	1	1
	X0137	4468	23	15	12	9	8	3	2	2	3	5
	X0138	2465	13	9	7	5	5	2	1	1	2	3
X115	X0140	1631	9	6	5	4	3	1	1	1	2	2
	X0141	1953	10	7	5	4	4	1	1	1	2	2
	X0143	4198	21	14	11	9	7	3	2	2	3	5
	X0144	1652	9	6	5	4	3	1	1	1	2	2
	X0147	620	4	3	2	2	2	1	1	1	1	1
X116	X0149	1544	8	6	4	4	3	1	1	1	1	2
	X0150	2138	11	8	6	5	4	2	1	1	2	3
	X0152	3254	17	11	9	7	6	2	2	2	3	4
	X0153	4305	22	15	11	9	8	3	2	2	3	5
X117	X0155	2901	15	10	8	6	5	2	2	1	2	3
	X0156	3936	20	14	10	8	7	2	2	2	3	4

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	X0157	5951	30	20	15	12	10	3	3	2	4	6
	X0160	1526	8	6	4	4	3	1	1	1	1	2
X118	X0161	3375	17	12	9	7	6	2	2	2	3	4
	X0163	1506	8	6	4	4	3	1	1	1	1	2
	X0165	2120	11	8	6	5	4	2	1	1	2	3
	X0166	6451	33	22	17	13	11	4	3	3	5	7
X119	X0167	5055	26	17	13	11	9	3	3	2	4	5
	X0168	3333	17	12	9	7	6	2	2	2	3	4
	X0172	923	5	4	3	2	2	1	1	1	1	1
	X0174	97	1	1	1	1	1	1	1	1	1	1
	X0176	2624	14	9	7	6	5	2	2	1	2	3
X120	X0177	3476	18	12	9	7	6	2	2	2	3	4
	X0178	4765	24	16	12	10	8	3	2	2	4	5
	X0179	4988	25	17	13	10	9	3	2	2	4	5
	X0183	3190	16	11	8	7	6	2	2	2	3	4
X121	X0184	2801	15	10	8	6	5	2	2	1	2	3
	X0186	6055	31	21	16	13	11	4	3	3	4	6
	X0188	2841	15	10	8	6	5	2	2	1	2	3
	X0189	2750	14	10	7	6	5	2	2	1	2	3
X122	X0190	2535	13	9	7	6	5	2	2	1	2	3
	X0191	2581	13	9	7	6	5	2	2	1	2	3
	X0195	1287	7	5	4	3	3	1	1	1	1	2
	X0197	2041	11	7	6	5	4	2	1	1	2	3
X123	X0201	6404	33	22	17	13	11	4	3	3	5	7
	X0203	3927	20	14	10	8	7	2	2	2	3	4
	X0204	1095	6	4	3	3	2	1	1	1	1	2
	X0205	3498	18	12	9	7	6	2	2	2	3	4
X124	X0207	2641	14	9	7	6	5	2	2	1	2	3
	X0209	2039	11	7	6	5	4	2	1	1	2	3
	X0210	1008	6	4	3	3	2	1	1	1	1	1
	X0213	2329	12	8	6	5	4	2	1	1	2	3
X125	X0214	3269	17	11	9	7	6	2	2	2	3	4
	X0215	2362	12	8	6	5	4	2	1	1	2	3
	X0216	1790	9	6	5	4	3	1	1	1	2	2
	X0219	6384	32	22	16	13	11	4	3	3	5	7
X126	X0221	857	5	3	3	2	2	1	1	1	1	1

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	X0224	3999	20	14	10	8	7	2	2	2	3	4
	X0225	2357	12	8	6	5	4	2	1	1	2	3
	X0226	1682	9	6	5	4	3	1	1	1	2	2
	X0229	1580	8	6	4	4	3	1	1	1	2	2
X127	X0231	1303	7	5	4	3	3	1	1	1	1	2
	X0234	5807	30	20	15	12	10	3	3	2	4	6
	X0235	492	3	2	2	1	1	1	1	1	1	1
	X0237	1547	8	6	4	4	3	1	1	1	1	2
	<b>218 sites</b>	<b>578,490</b>	<b>3002</b>	<b>2040</b>	<b>1562</b>	<b>1269</b>	<b>1072</b>	<b>405</b>	<b>341</b>	<b>306</b>	<b>482</b>	<b>682</b>

**Prices**

DRE: \$8,000	\$24,016,000	\$16,320,000	\$12,496,000	\$10,152,000	\$8,576,000
DRE: \$9,000	\$27,018,000	\$18,360,000	\$14,058,000	\$11,421,000	\$9,648,000
DRE: \$10,000	\$30,020,000	\$20,400,000	\$15,620,000	\$12,690,000	\$10,720,000

**OpScan, BMD\* Prices: \$5,500**      \$2,227,500   \$1,875,500   \$1,683,000   \$2,651,000   \$3,751,000

**OpScan, plus BMD for 1%:**      \$4,878,500   \$4,526,500   \$4,334,000

**OpScan, plus BMD for 2%:**      \$5,978,500   \$5,626,500   \$5,434,000

\*To calculate the number of BMDs (Ballot Marking Devices), we assumed that 20% of registered voters have disabilities, 50% of them wish to vote, and half of these will use absentee ballots and half vote at the pollsite. This yields 5% of registered voters who may wish to use BMDs. Of these, one or two fifth may use audio, sip&puff, or rocker paddles, which yields 1% or 2% of registered voters using these devices. The State Board of Elections assessed that voters using these attachments on BMDs to be used in 2006 required 30 to 45 minutes to vote. We used 37 minutes as the average for these voters. We estimated 5 minutes for the other three or four-fifth of voters with disabilities using BMDs. Then the total minutes use of BMD by the 5% of voters was divided by 900 minutes, which is the length of a 15-hour election day.