MEMORANDUM

LEGISLATIVE REFERENCE BUREAU

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To: Ald. Ashanti Hamilton, Chair, Judiciary and Legislation Committee

From: Richard Pfaff, Manager

Date: March 30, 2011

Subject: City-wide Population Density and Change by Ward; Population Equality by Aldermanic District

Please find attached for your information the following 2 City-wide maps relating to 2010 Census population data for the City of Milwaukee:

1. 2010 Population Density by Voting Ward (Map 126690).
   This map shows the population density for 2010 as a calculation of population per square mile for each voting ward.

2. 2000 to 2010 Population Change by Voting Ward (Map 126623).
   This map shows the change in population from 2000 to 2010 as a calculation of percent change in population for each voting ward.

In addition, Table 1 on page 3 indicates measurements of the degree of population equality among the aldermanic districts. Wisconsin law requires that once the census data becomes available, local governments and the state legislature are required to adjust the boundaries of election districts so that they are as equal as possible in population.

The following statistical calculations are provided in Table 1 to show individual and collective variations in aldermanic district populations:

Ideal Population: The ideal district population is calculated by dividing the total City population by the number of aldermanic districts. The ideal district population for 2010 redistricting is 39,656, which is a decrease of 142 (-0.4%) from the ideal district population of 39,798 for 2000 redistricting.

Deviation, Absolute and Relative: The degree by which a single aldermanic district's population varies from the ideal population is stated in terms of absolute and relative deviation. Absolute deviation indicates the difference between the district's population and the ideal population, and is expressed as the number of people. Relative deviation indicates the proportion by which a district's population exceeds or falls short of the ideal population, and is expressed as a percentage.

Mean Deviation: The mean (average) deviation is equal to the sum of the deviations of all the districts divided by the total number of districts. The mean deviation for 2010 redistricting is 1,706 (4.3%) from the ideal district population. The following 3 districts have deviations that are equal to or greater than twice the mean deviation: District 3, 4,113 (10.4%); District 5, 3,424 (8.6%); and District 15, -5,343 (-13.5%).

Range/Overall Range: The range is a measure of the difference in population between the most populous district and the least populous district. The absolute range for 2010 redistricting is 4,113 (District 3, most populous) to -5,343 (District 15, least populous); and the relative range is 10.4% to -13.5%, District 3 and 15, respectively.

The overall range is the difference in population between the largest and smallest districts, expressed as a percentage and as the number of people. The overall range for 2010 redistricting is 23.8%, or 9,456 people.

The standard of population equality in redistricting is established as an ideal overall range of less than 10%. The overall range for 2000 redistricting was 9.6%, or 3,828 people.

Additional City-wide maps and population analyses relating to race and ethnicity are being prepared by the LRB. Individual aldermanic district maps and population analyses relating to population density, population change, and race and ethnicity will follow.

Attachments: Maps 126623, 126690

Cc: All Common Council Members
Ronald Leonhardt, City Clerk
Jim Owczarski, Deputy City Clerk

LRB126679

Table 1. Change in Population Compared to Ideal District Population, 2000 to 2010.

Aldermanic District	2000			2010			2000 to 2010	
	Population	Absolute Deviation from Ideal	Relative Deviation from Ideal	Population	Absolute Deviation from Ideal	Relative Deviation from Ideal	Absolute Population Change	Relative Population Change
1	38,537	-1,261	-3.2%	36,819	-2,837	-7.2%	-1,718	-4.5%
2	40,304	506	1.3%	39,792	136	0.3%	-512	-1.3%
3	41,663	1,865	4.7%	43,769	4,113	10.4%	2,106	5.1%
4	37,859	-1,939	-4.9%	38,961	-695	-1.8%	1,102	2.9%
5	41,687	1,889	4.7%	43,080	3,424	8.6%	1,393	3.3%
6	41,552	1,754	4.4%	38,900	-756	-1.9%	-2,652	-6.4%
7	41,260	1,462	3.7%	37,630	-2,026	-5.1%	-3,630	-8.8%
8	38,067	-1,731	-4.3%	41,677	2,021	5.1%	3,610	9.5%
9	40,214	416	1.0%	40,807	1,151	2.9%	593	1.5%
10	40,949	1,151	2.9%	40,065	409	1.0%	-884	-2.2%
11	38,807	-991	-2.5%	39,989	333	0.8%	1,182	3.0%
12	40,315	517	1.3%	39,955	299	0.8%	-360	-0.9%
13	38,191	-1,607	-4.0%	40,564	908	2.3%	2,373	6.2%
14	38,206	-1,592	-4.0%	38,512	-1,144	-2.9%	306	0.8%
15	39,363	-435	-1.1%	34,313	-5,343	-13.5%	-5,050	-12.8%
Total City Population	596,974			594,833			-2,141	-0.4%
Ideal District Population	39,798			39,656			-142	-0.4%
Mean Deviation	1,274 (3.2%)			1,706 (4.3%)			Ideal Overall Range	
Range	1,889 to -1,939 4.7% to -4.9%			4,113 to -5,343; 10.4% to -13.5%			< 10%	
Overall Range	3,828 (9.6%)			9,456 (23.8%)				

Source: Legislative Reference Bureau analysis of 2010 census data.