

# Community Profile



“Removing the inmate population  
from the Census data”

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## Introduction

The city of Waupun, WI, had a population of 10,718 in the 2000 Census. However, one in four residents in the community is incarcerated in one of four Correctional Institutions located in the city. This is a significantly high ratio compared to other communities. For the US and Wisconsin, only 0.7% and 0.6% of the population is incarcerated respectively. Because of the location of several Correctional Institutions in the city and the large segment of the population that resides in such institutions, some demographic and socio-economic data for the city do not reflect the true profile of the community. In order to provide a true picture of the city's socio-economic profile, it is important that the inmate population is controlled in the demographic data; hence, the purpose of this study. The following outlines the methods and procedures that were used in the analysis.

## Procedure

a) *Identifying Census Tract and Block Group Boundaries for the City of Waupun*: Our first task was to identify the Census Tracts within which the City of Waupun falls. To do so we overlaid the US Census Tracts layer onto a layer of the city of Waupun, a layer of the Block Groups and a layer of counties in Wisconsin. The overlay maps showed that the City of Waupun straddles both Fond du Lac and Dodge County. From this analysis, we also determined that the city boundaries fell within the bounds of two Census Tracts. These were Census Tract 9603 in Dodge County and Census Tract 418 in Fond du Lac County (see Figure 1). We then identified the Block Groups for the City of Waupun that corresponded with these Census Tracts.

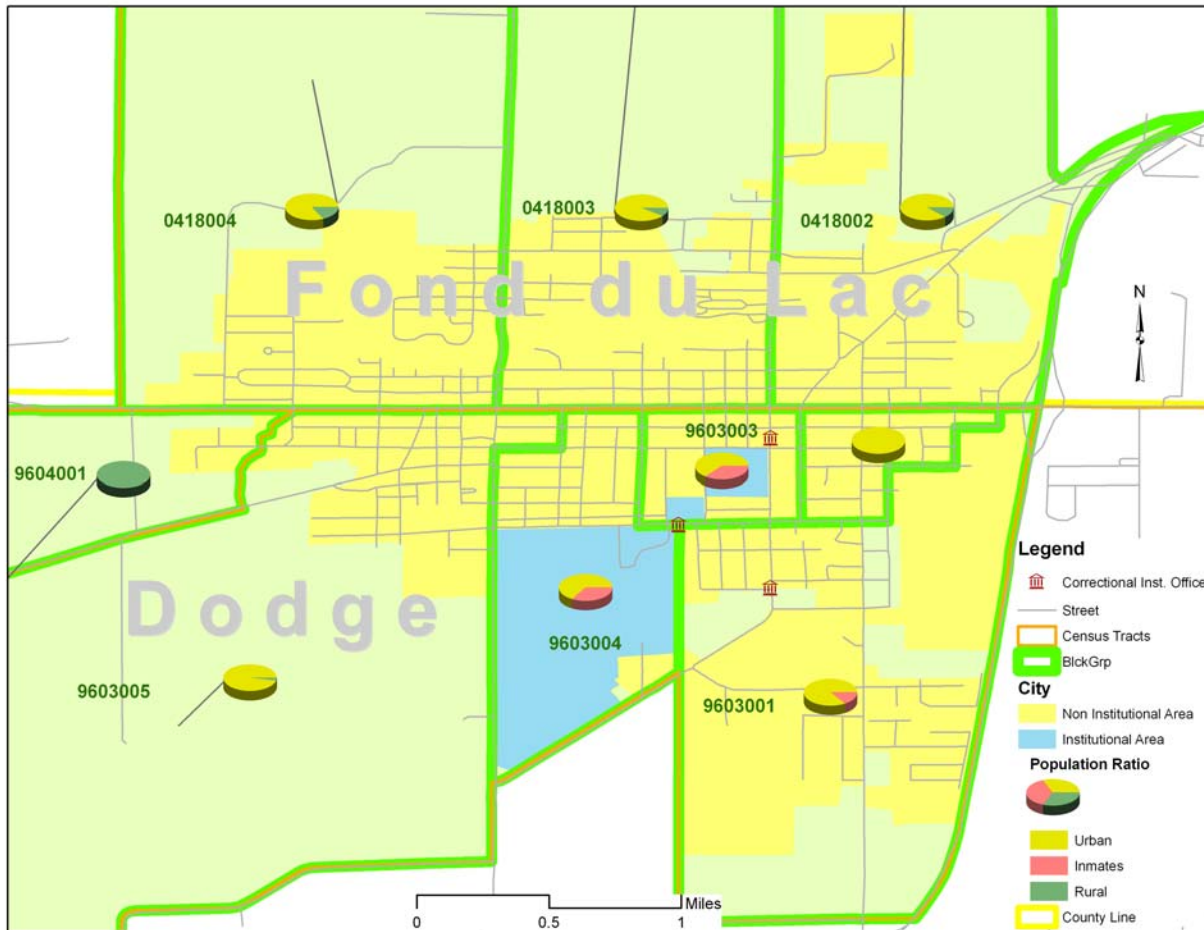


Figure 1: Census Tract Boundaries of the City of Waupun showing location of and proportion of inmates in correctional Institutions, as well as the proportion of urban and rural residents in each Block Group within the Census Tracts.

b) *Determining the Bounds of the Correctional Institutions and the Correctional Institution Population in the City:* The next task was to determine the area occupied by the Correctional Institutions in the community in order to identify the Block Groups that make up this boundary. Again, using the overlay map already created under step one above, we geo-referenced the zoning map of the City of Waupun that has the institutional boundaries and mapped (geo-coded) the addresses of the three Correctional Institutions. The resulting map showed the Correctional Institutions' boundaries in Census Block Groups 1, 3, and 4 in Census Tract 9603 of Dodge County.

Having identified the location of the Correctional Institutions on the map, we then set out to determine the size of the prison population in each of the Census Block Groups. To do so we downloaded Census Block Group data from Census File SF1 that contained data on the population that lived in Group Quarters (including Correctional Institutions) in the community. As Table 1 shows, there were 226 inmates in Block Group 1 of Census Tract 9603, 1,226 inmates in Block Group 3 of Census Tract 9603, and 1,381 inmates in Block Group 4 of Census Tract 9603. Thus, there were a total of 2,833 correctional inmates in the city.

Table 1: Demographic Data from Census SF1 File

Geography	Total Population	Correctional Population	% of Total Population in Block Group	Non-Inmate Population in Block Group
Block Group 1, Census Tract 9603, Dodge County, Wisconsin	1,495	226	15.1%	1,269
Block Group 2, Census Tract 9603, Dodge County, Wisconsin	859	0	0	859
Block Group 3, Census Tract 9603, Dodge County, Wisconsin	1,958	1,226	62.6%	732
Block Group 4, Census Tract 9603, Dodge County, Wisconsin	2,458	1,381	56.2%	1,077
Block Group 5, Census Tract 9603, Dodge County, Wisconsin	1,000	0	0	1,000
Block Group 2, Census Tract 418, Fond du Lac County, Wisconsin	1,172	0	0	1,172
Block Group 3, Census Tract 418, Fond du Lac County, Wisconsin	1,343	0	0	1,343
Block Group 4, Census Tract 418, Fond du Lac County, Wisconsin	1,200	0	0	1,200
Total	11,485	2,833	24.5%	8,652

Source: Compiled from US Census Bureau, 2000 Census, <http://factfinder.census.gov/> Summary File 1, 100% Count.

c) *Delineating the Non Correctional Population from the Correctional Population for Profile Analysis:* The Census Block Groups were our basic units for the subsequent analysis. Using data from the Census Block Groups the next step in the process was to analyze the demographic profile for the City of Waupun first including the correctional population, and then undertake the same analysis without the correctional population. To analyze the demographic and socio-economic profile for the city as a whole (using SF3 data) we downloaded, income, employment, and education data from the Census Bureau's SF3 file. It is important to note that the SF3 file is different from the SF1 file in a number of respects and that the two files give two different counts for a lot of data elements because they are compiled differently. The SF1 file is a 100 percent count of the population while data for the SF3 file is compiled from a sample of the population (1 in 6 households). The results are manipulated using certain mathematical formulas to give the resulting totals. Because sampling techniques are used the SF3 files will only go down to the "block group" level. By contrast, the SF1 files have data going down to the "block" level. The SF3 files also provide much more detailed socioeconomic and demographic information including income and employment statistics whereas the SF1 file only has demographic data. Surprisingly, Census statisticians maintain that their sampling techniques are more accurate than the "100% counts."

*i) Adjustment for the Correctional Population*

Census Block Group data for Census Tracts 9603, Block Groups 1, 2, 3, 4 and 5; as well as Census Tract 418, Block Groups 2, 3, and 4 were downloaded. Demographic, income, and employment data were then analyzed for the entire city. Then, the same data were analyzed for the non-correctional population. This time, only data for Census Tract 9603, Block Groups 1, 2, and 5; and Census Tract 418, Block Groups 2, 3, and 4 were used in the analysis. Because the correctional population comprised a large segment of Census Tract 9603 Block Groups 3 and 4 (see Table 1), a decision was made to eliminate these Block Groups from the analysis. Census Tract 9603 Block Group 1 was included in the analysis because although it also had some correctional population, they were a smaller fraction of the population for that Block Group (only 15%). This procedure meant that 1,809 residents in the city who lived in Census Block Groups 3 and 4 of Census Tract 9603 were not included in the analysis whereas 226 correctional inmates were included in the analysis because we included all residents in Block Group 1 of Census Tract 9603.

*ii) Adjustment for the Rural Population*

Census Tract boundaries are often not coterminous with the political boundaries of cities. In this analysis, Census Tracts 9603 and 418 included both rural and urban residents. The Census Bureau considers only urban residents to live in cities. Since some of the residents in the Census Tracts lived in rural areas this meant that they are not city residents and therefore lived outside the political boundaries of the City of Waupun (see Table 2). There were a total of 1,741 such residents in 5 of the Block Groups used in the analysis. It is fair to say however that these residents are functionally, if not politically, integrated with the City of Waupun. Because the income and other demographic data for the Block Groups is not segmented by rural and urban residents, we could not isolate this population from the data for analysis. As a result, this rural population was included in the analysis. It must also be kept in mind that 1,809 urban residents were eliminated because they lived in Census Block Groups 3 and 4 of Census Tract 9603 that had the correctional population. Thus, the inclusion of the 1,741 rural residents, while not an

exact match corrected for this lost population. Census Tract 9604 was also not included in the analysis because, although it currently includes a little portion of the City of Waupun, it had no count of urban residents in it.

Table 2: Census Tracts and Block Groups Used in the Analysis

Geography	Total population: Urban	Total population: Rural	% Rural
Block Group 1, Census Tract 9603, Dodge County, Wisconsin	1,495	0	0
Block Group 2, Census Tract 9603, Dodge County, Wisconsin	884	0	0
Block Group 3, Census Tract 9603, Dodge County, Wisconsin	1,929	0	0
Block Group 4, Census Tract 9603, Dodge County, Wisconsin	2,514	0	0
Block Group 5, Census Tract 9603, Dodge County, Wisconsin	932	16	1.7%
Block Group 1, Census Tract 9604, Dodge County, Wisconsin	0	1,306	100%
Block Group 2, Census Tract 418, Fond du Lac County, Wisconsin	1,076	115	10.7%
Block Group 3, Census Tract 418, Fond du Lac County, Wisconsin	1,182	123	10.4%
Block Group 4, Census Tract 418, Fond du Lac County, Wisconsin	1,038	181	17.4%
Total	11,050	1,741	15.7%

Source: Compiled from US Census Bureau, 2000 Census, <http://factfinder.census.gov/> Summary File 3, Sample Data.

## Findings

The analysis of Census data yielded a number of findings pertaining to the city’s demographics, economics, and educational attainment. These findings are discussed next.

### *Demographic Profile*

As Table 3 shows, the obvious observation is that when the correctional population is subtracted from the population totals, the actual number of residents in the city (7,042) is smaller than that reported by the Census Bureau (11,485). Also, the proportion of the White population in the city increases from 85.6% to 96.5%.

The City of Waupun also has smaller household and family sizes under the new calibration; 2.5 compared to 3.3, and 3.6 compared to 4.8 respectively. In this respect the city compares favorably with the average household and family size for the state (a 2.6 household and 3.8 family size), and the country (a 2.7 household and 3.9 family size).

Table 3: Demographic Characteristics of Selected Block Groups

Demographic Characteristics	United States	Wisconsin	Waupun	Non Inmate Population
Total Population	281,421,906	5,363,675	11,485	7,042 <sup>1</sup>
White Population	211,353,725	4,773,553	9,834	6,798
White Pop. as % of Total Population	75%	89.9%	85.6%	96.5%
Number of Households	105,539,122	2,086,304	3,538	2,813
Average Household Size	2.7	2.6	3.3	2.5
Number of Families	72,261,780	1,395,037	2,407	1,955
Average Family Size	3.9	3.8	4.8	3.6
Correctional Population	1,976,019	31,068	2,833	-
% of Population in Correctional Institutions	0.7%	0.6%	25.7%	-

Source: Compiled from US Census Bureau, 2000 Census, <http://factfinder.census.gov/> Summary File 3, Sample Data.

<sup>1</sup> This number puts the inmate population at a larger number than under the SF1 data. If we subtracted the inmate population of 2,833 from the total city population of 11,050 we would actually obtain a non-inmate population of 8,217.

*Economic Profile*

The recalibration of the data (see Table 4) shows that the City of Waupun has a per capita income of \$20,336, much higher than that reported by the Census Bureau at \$17,974. With this new finding on per capita income, the city’s per capita income is not significantly lower than that for the state (\$21,272) or the United States (\$21,587). The data also show that the City of Waupun has fewer poor people (4.8%) compared to the reported 5.3%. Additionally, there are fewer households on public assistance (0.7%) than previously reported (0.8%) although the difference is not statistically significant.

Table 4: Economic Characteristics

Economic Characteristic	United States	Wisconsin	Waupun	Non Inmate Population
Total Households	105,539,122	2,086,304	3,538	2,813
Aggregate Household Earnings	\$5,978,106,533,600	\$112,374,261,000	\$162,867,900	\$136,855,400
Households with Earnings	84,962,743	1,706,803	2705	2,159
% of Households with Earnings	80.5%	81.8%	76.5%	76.8%
Households on Public Assistance	3,629,732	35,695	27	21
Pub. Assistance HH as a % of All Households	3.4%	1.7%	0.8%	0.7%
Total Families	72,261,780	1,395,037	2,407	1,955
Aggregate Family Income	\$4,672,681,413,300	\$87,701,030,400	\$132,820,800	\$112,797,900
Aggregate Income for Pop. 15 years and over	\$6,074,932,742,500	\$114,090,620,700	\$198,623,700	\$143,211,500
Per Capita Income	\$21,587	\$21,271	\$17,974	\$20,336
Population for whom Poverty is Determined	273,882,232	5,211,603	8,516	6,795
Number with Income Below Poverty Level	33,899,812	451,538	454	326
% Poor	12.4%	8.7%	5.3%	4.8%

Source: Compiled from US Census Bureau, 2000 Census, <http://factfinder.census.gov/> Summary File 3, Sample Data.

### *Educational Attainment*

As Table 5 shows, there are major differences in the findings on educational attainment for the city after controlling for the correctional population in the Census data. First, the new data show a higher proportion of male residents, 82.8% have at least a High School diploma or its equivalent compared to 78.2% when the correctional population is included in the analysis. Second, more male residents, 18.5% have a Bachelors degree or higher when the correctional population is not included in the analysis than when they are included, 11.5%. Finally, for all residents, regardless of sex, there are a lot more people with at least a college degree in the city, 15.9% when the correctional population is not included in the data than when they are included, 12.8%.

Table 5: Educational Attainment

	United States	Wisconsin	Waupun	Non Inmate Population
% of Female Population 25 + with HS Diploma or higher	80.7%	85.6%	80.4%	79.7%
% of Male Population 25+ with HS Diploma or higher	80.1%	84.5%	78.2%	82.8%
Female Population 25+ with College Degree or higher	22.8%	21.7%	14.0%	13.4%
Male Population 25+ with College Degree or higher	23.8%	23.2%	11.5%	18.5%
Total Population 25+ with HS Diploma or higher	80.4%	85.1%	81.2%	81.2%
Total Population 25+ with College Degree or higher	24.4%	22.4%	12.8%	15.9%

Source: Compiled from US Census Bureau, 2000 Census, <http://factfinder.census.gov/> Summary File 3, Sample Data.

### Conclusion

The above findings give credence to the concern that communities with large prison populations may be portrayed less favorably in Census Bureau reports than their actual socio-economic profiles may dictate. By controlling for the prison population in Census Bureau data, such communities can provide potential investors, developers, and the general public with a more realistic demographic and socio-economic profile, one that can impact investment and business location decisions.

## APPENDIX

Additional data can be extracted for the non-institutional population based on need and for an additional service charge. The following are some of the additional data that may be of interest to the City of Waupun from the SF1 and SF3 Census files.

### ***Census Bureau SF1 File***

In addition to data on the inmate population in the city, socio-economic and demographic data can be extracted and analyzed separately for

- a) Population in Nursing Homes,
- b) College Dormitories,
- c) Military Quarters.

### ***Census Bureau SF3 File***

Additional statistics can be generated for the i) inmate population alone, ii) non-inmate population, iii) population in nursing homes, iv) population in college dormitories, and v) population in military quarters in the following areas:

#### ***Income***

- a) Self employment income for households
- b) Interest, dividends, or net rental income for households
- c) Social Security Income for households
- d) Supplemental Security Income for Households
- e) Wage or Salary Income for Households
- f) Retirement Income for Households
- g) Non-family Household Income

#### ***Poverty***

- a) Ratio of Income to poverty level
- b) Aggregate Income Deficit for Families by Family Type
- c) Poverty Status by Household Type

#### ***Demography***

- a) Sex by Age
- b) Household Size by Household Type
- c) Family Type by Presence of Related Children
- d) Age by Language Spoken at Home
- e) Sex by Marital Status
- f) Place of Birth by Citizenship
- g) Means of Transportation to Work
- h) Age by Type of Disability
- i) Family Type by Employment Status
- j) Sex by Occupation
- k) Sex by Industry of Work
- l) Language Spoken at Home
- m) Ancestry
- n) Place of Residence 5 Years Before Census