Historical Population 1900-2000 by Minor Civil Division

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draft

Abstract

This document describes the organization and process of obtaining U.S. Census Bureau population counts from 1900 to 2000 for minor civil divisions in eight southeast Michigan counties in the Detroit Water and Sewerage Department planning area.
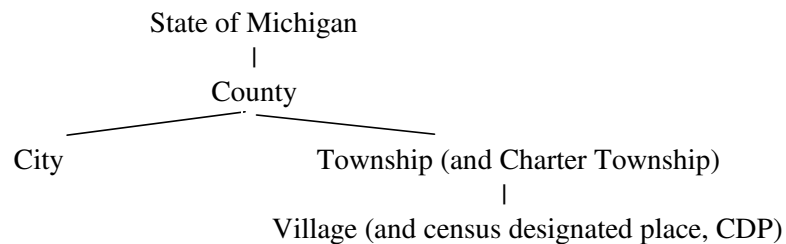
SEMCOG Data Center Technical Documentation

Purpose

This document provides an explanation of how the Census Bureau organizes population counts for minor civil divisions, and how a database was created from historical censuses. These population counts have been requested by the consultant to the Detroit Water and Sewerage Department (DWSD), Camp Dresser & McKee Inc., as part of their 50-year master planning process.

Overview

The *minor civil divisions* of Michigan are comprised of *townships*, *cities*, and incorporated *villages*. The primary divisions of the State of Michigan are the *counties*. The primary divisions of the counties of Michigan are the townships and independent cities. The townships include the secondary divisions, which are incorporated as villages. A village may occupy two or more townships, or parts of townships, and these townships may be in different counties. A city may occupy two or more counties, or parts of counties. A township may occupy only one county.

The heirarchy is depicted in the figure below:

(In other states, the heirarchy of civil divisions may be defined differently.)

In each Decennial United States Census, hereafter referred to as the Census, there is a table that lists the population of counties by minor civil division. The population counts for the preceding two decades are also listed. These tables are generally found in the *Characteristics of the Population* volume for the particular State.

Throughout this document, charter townships and townships are both referred to as *townships*, and villages and census designated places (CDPs) are referred to as *villages*, unless a distinction must be made.

The Census lists the population of minor civil divisions that are split (cities and villages) in a such a way that the parts of the population in each section are broken out. For example, Northville city, which has parts in the two counties of Oakland and Wayne, will have two entries showing the population in each county. Another example, Chelsea village, which has parts in Lima township and Sylvan townships of Washtenaw county, will also have two entries showing the population in each township. Different Censuses use slightly different styles of showing the split, but all provide the same information. The exception is the 1920 Census, which does not show the split portions.

Organization of the Database

This data is organized in the database in two major tables, *PrimaryDivisions* and *SecondaryDivisions*. *PrimaryDivisions* contains cities and townships, while *SecondaryDivisions* contains villages. Split MCDs are represented by storing the containing (or parent) MCD along with the name of the MCD. For example:

tblPrimaryDivisions

ParentName	ParentType	ChildName	ChildType	1900	1910	...	2000
monroe	county	milan	city	0	0	...	1710
washtenaw	county	milan	city	0	0	...	3065

By convention, the type of the place is stored separately from the name of the place. Also, all names are stored in lowercase to ease data entry and because capitalization can be automated. By storing the county name for each city, population for each county part of a city can be recorded.

For the *SecondaryDivisions* table, the *grandparent* is also stored:

tblSecondaryDivisions

GrandparentName	GrandparentType	ParentName	ParentType	ChildName	ChildType	...	2000
livingston	county	green oak	township	whitmore lake	cdp	...	6574
washtenaw	county	northfield	township	whitmore lake	cdp	...	4850

This format allows portions of villages in different townships and different counties to be appropriately stored.

Two other tables hold additional information. County totals are stored in *StateDivisions* and footnotes are stored in *Footnotes*. The *StateDivisions* table stores the eight county names and their decennial population counts. These are used to verify data entry and for inclusion in the reports. The *Footnotes* table stores metadata recorded as footnotes in the Census. These include incorporations, name changes, and other comments.

The Excel workbook is the original source for the electronic data, and should be maintained as such. The Access database is simply an intermediate step to generating the final report. The reason for this is that data entry and corrections can be done more easily in Excel than in Access. However, Access has the powerful relational database functions, scripting support, and reporting features. The Excel worksheets are set up so that they can be directly imported into Access.

Steps from Data Entry to Final Report
Step 1: Retrieving Census Publications
Relevant Census publications were retreived from the SEMCOG planning library. The table copied was the report of population for counties by minor civil division. For missing decades, the tables were copied from Census publications stored at the University of Michigan graduate library stacks and at the Wayne State Purdy/Kresge Library. In the case of the 2000 Census, data was retreived electronically.

Step 2: Entering Population Data Into Excel
Population counts and MCD names were manually entered into an Excel workbook with sheets named *tblPrimaryDivisions* and *tblSecondaryDivisions* and following the schema outlined above and listed in the Appendix. Census Designated Places (a.k.a. unincorporated places), were also entered, but not used in the final report.

Step 3: Data Quality Control
Township and city populations add up to the county population. The county populations entered in the *StateDivisions* table are compared to the sums from *PrimaryDivisions* using the query *"check county total differences btwn tblPrimary and tblState"*. Entered numbers were corrected until all the differences became zero. Village populations were double checked manually. MCD spellings were checked and revised while checking the population counts.

In many cases, the Census reported a city's population before it incorporated. These counts were entered into the database, but were shaded in gray to indicate that they should not be counted in that decade's county total. Later, an extra column (such as 1900m) was added with values 0 or 1. A one means that the count is part of the county total, and a zero means that it is not. This was part of a conscious effort to avoid representing data in

the Excel file with non-standard table features like shading, font styles, or comments.

Where the Census Bureau made revisions, the latest revision was entered into the database. In some cases, a revision was made to a minor civil division, but the county total was not changed. In these cases, the revision was entered as another row with the same MCD name. Only the revision amount (negative or positive) was entered in this row and flagged with a zero to indicate that the amount should not be included in the county total.

Step 4: Retreiving Census 2000 Data

SEMCOG Census 2000 numbers for MCDs could not be used directly because they do not report the populations of parts of villages in different townships, and do not include Lapeer County. This data was retrieved directly from the *Census 2000 Summary File 1* source data. Further explanation of this process is in the appendix.

Step 5: Entering Footnotes

Census footnotes include the following types of comments: annexations, reversions, incorporations, disincorporations, Census MCD reporting changes, information about population included in county totals, boundary changes, and name changes. Of these, only incorporations and name changes are recorded in the *Footnotes* table. A few other comments are entered as necessary. Starting in 1960, the Census does not report the year of incorporation. In these cases, the MCD is reported to have incorporated as of the year of the Census. Information in the additional fields of the footnotes table is filled in as available, and is not used in the final report. To automatically number the footnotes, the table is sorted by county name, place name, then place type, and then a number sequence is applied to the FootnoteID column. Footnotes entries were double checked manually.

Step 6: Reporting

There are two reports, *Historical Population 1900-2000* and *Footnotes*. The steps for generating the report follow:

1. Import tables into Access from Excel; *tblPrimaryDivisions, tblSecondaryDivision, tblStateDivisions, tblFootnotes*. Tables include a header row and do not require a primary key.
2. Run the query *[check county total differences btwn tblPrimary and tblState]* and verify that all the differences are zero.
3. The *src1* through *src4* queries total and organize the raw data from the source tables. These do not need to be run again.
4. Execute the queries *step1* through *step4*. These queries create and append to the *[final pop output by county]* table all the records for the final report and must be executed.
5. The *step5* and *step6* queries further process the data, capitalizing and formatting the MCD names. These do not need to be run again.
6. Finally, simply open the reports and print them.

The queries rely on two Visual Basic functions in the Access *functions module* named *ProperCase* and *FormatNumber*. These short functions capitalize the MCD names and comma-separate at the thousands place the population counts, respectively.

The query sequence converts city populations that should not be included in the county totals to negative numbers. Later, these numbers are parenthesized by the *FormatNumber* function. However, population counts with revisions or corrections are not distinguised in any way.

General Notes

Each decennial Census table shows population counts for the two preceding decades, except for the 1970 Census, which only shows 1960 counts. It was thought that using only every other Census would provide all the needed data. However, because the Census tables only include the minor civil divisions existing as of the Census, minor civil divisions that went out of existence after the prior Census would be missing their final population count. Thus, every decennial Census from 1900 through 2000 was used.

The 1920 Census did not report village populations of parts when the village was split across county or township boundaries. (Note: See additional research section.)

Prior to the 1950 Census, city population counts in preceding decades were italicized when they were not to be included in the county total. From Census 1950 and beyond, no distinguishment has been made.

Census 2000 began referring to some townships as "charter townships". There are nine of these cases and we added the word 'charter' to the *place type* instead of to the *place name* because the Census did not capitalize the 'c' in 'charter'. Charter townships are distinguished from ordinary townships by the amount of legal authority they have in managing their city.

The acronym CDP refers to census designated places. Prior to 1980, the Census referred to these as "uninc.", "U", or unincorporated places. Prior to 1950, the Census did not record these. The database includes population counts for CDPs, but the final reports for DWSD do not.

The Census did not report any MCD that existed only in the brief period between two decennial Censuses, except possibly in the footnotes by reference to a reported MCD. These are not listed in the final report but may be mentioned in the footnotes. For example, Halfway village, which incorporated from Erin township in 1924 and then incorporated as East Detroit city in 1929, is mentioned in the footnotes but not listed.

All text entered in the database source tables (excluding *Footnotes*) is in lower case to make data entry easier.
The capitalization rules used for the reports are as follows:
· For the <u>names</u> of places, use generic title case; capitalize the first letter and any single letter following a space or a hyphen, excepting the word "of", which occurs once in "Village of Clarkston".
· For the <u>types</u> of places, capitalize "county" and "state", but not "city", "township", "charter township", or "village". "cdp" should be all capitals.

Additional Research

There are several specific improvements to this data set which could be accomplished by additional research.
Because the 1920 Census did not report village splits, Marysville village in St. Clair County does not have a village population count for each township part in 1920. The village incorporated in 1919 from parts of St. Clair township and Port Huron township, and then incorporated into Marysville

City in 1924. This fact is indicated in the footnotes for those MCDs. The 1920 population for those three MCDs are affected, and this could be resolved by further research into the 1920 Census.

For Census 2000, we did not have the final publication with footnotes. Thus, any recent incorporations or name changes would not be included in the final report. However, many of these were discovered implicitly by their existence in the Census 2000 database.

Appendix

Census 2000 Electronic Data Retrieval

The MCD table was first searched for on the Census FactFinder website. It was found by taking the following steps: go to http://www.census.gov, keyword search on "gct-ph1", click on "more...", click on "GCT-PH1. Population, Housing Units, Area, and Density: 2000 - Geography: State -- Place and (in selected states) County Subdivision", and then choose Michigan.

This table did not include the population of parts of villages split across township boundaries. Thus, the Summary File 1 source data for Michigan was downloaded from the Census via FTP. The geography file and the first file were all that were needed. These files, mi00001_uf1.zip and migeo_uf1.zip, were downloaded from:

http://www2.census.gov/census_2000/datasets/Summary_File_1/Michigan/

These were unzipped and imported into the SF1 skeleton database (Access97.zip) according to the directions provided by the Census here:

http://www.census.gov/support/SF1ASCII.html

The query "*population of mcds by eight DWSD counties*" extracts the appropriate records from the database.

Database Schema

tblStateDivisions

ParentName
ParentType
ChildName
ChildType
2000
1990
1980
1970
1960
1950
1940
1930
1920
1910
1900
1890

tblPrimaryDivisions

ParentName
ParentType
ChildName
ChildType
2000m
2000
1990m
1990
1980m
1980
1970m
1970
1960m
1960
1950m
1950
1940m
1940
1930m
1930
1920m
1920
1910m
1910
1900m
1900

tblSecondaryDivisions

GrandparentName
GrandparentType
ParentName
ParentType
ChildName
ChildType
2000
1990
1980
1970
1960
1950
1940
1930
1920
1910
1900

tblFootnotes

EntryID
FootnoteID
CountyName
PlaceName
PlaceType
Type
PrimaryYear
CensusYear
Footnote

File Locations

O:\Humbad\008_100_year_history\100_year_history.wpd	This file
O:\Humbad\008_100_year_history\100_year_history.xls	Excel workbook
O:\Humbad\008_100_year_history\100_year_history.mdb	Access database
O:\Humbad\008_100_year_history\Census2000_Pop_by_MCD.xls	Query result from SF1 database
O:\Humbad\008_100_year_history\michigan 2000 by mcd.htm	From Census 2000 Factfinder
O:\Humbad\012_Census2000_database\sf1_access2000.zip	SF1 database (zipped)

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