

Legislative Task Force on Demographic Research and Reapportionment

MEMORANDUM

To: Phillip D. Chonigman and Adrian S. Williams, Co-Executive Directors

From: Marisa Vallvé, Senior GIS Research Analyst  
Eric Wienckowski, Senior Cartographer  
Bruce Ruiz, GIS Manager  
Isaac Fefer, Senior Demographer

Date: September 17, 2021

Re: 2020 Census Data Adjustment

Introduction

On August 11, 2010, Part XX of Chapter 57 of the Laws of 2010 was signed into law by Governor Paterson. The law directed the New York State Department of Corrections and Community Supervision (DOCCS) to provide the Task Force with information on incarcerated persons under its jurisdiction as of April 1, 2010, the date of the federal decennial census count. The objective of Part XX is to: adjust the Census for state and local redistricting purposes by removing prisoners from where they are incarcerated and placing them at their residences prior to incarceration, if known. The law, also referred to as Legislative Law section 83-m (13), is still in effect for the 2020 Census and applies to incarcerated persons under DOCCS jurisdiction as of April 1, 2020.

This memo describes how the data were first geocoded and then how the Task Force technical staff implemented 2020 census data adjustment, as mandated by statute. This procedure followed the same methodology as was reviewed and approved by the DOJ during the preclearance process that was required in 2012.

The adjustment process consists of the following stages: (1) subtraction of all prisoners (state and federal), 2) the addition of prisoners whose addresses were geocoded successfully (reallocation), and 3) the production of data files and reports using the adjusted data.

1. Subtraction and Negative Numbers

Legislative Law section 83-m (13), the census adjustment law, mandates two subtractions: New York State Department of Corrections and Community Supervision (DOCCS) state prisoners and federal prisoners. According to DOCCS, there were 52 DOCCS facilities statewide on April 1, 2020, located on 64 census blocks (see Attachment #7). Based on Task Force research (2020 TIGER/Line data; 2020 PL 94-171 data; & federal Bureau of Prisons website), there were 4 federal facilities statewide on April 1, 2020, located on 4 census blocks (see Attachment #8).

Ten of the DOCCS facilities are located on multiple census blocks (Clinton, Downstate, Fishkill, Gowanda, Great Meadow, Groveland, Midstate, Orleans, Sullivan, & Wende; see Attachment #7). Two of the DOCCS facilities are located on the same census block (Collins & Gowanda; see Attachment #7).

According to DOCCS, there were 42,492 state prisoners on April 1, 2020. Based on Task Force research (see Attachment #8), there were 3,926 federal prisoners on April 1, 2020. Hence, the prisoner total to be subtracted is 46,418.

The Census Bureau's 2020 TIGER/Line geographic data product includes a Landmark area layer that identifies the "Federal Correctional Institution - Ray Brook" in Essex County's North Elba NY with 2020 tabulation block ID = 360319605021017 to have zero population based on the recent 2020 PL 94-171 Census data file. Without additional guidance or population input from the Census Bureau, the Task Force technical staff are unable to subtract any people from that facility.

For the Wyoming Correctional Facility census block in Wyoming County, the prisoner population and the total population are both 227, according to the 2020 PL 94-171 Census data file. According to the DOCCS data file, there are 1,165 prisoners in this facility. Subtraction yields a -938 figure (i.e., 227 minus 1,165 = -938). Thus, the adjusted data will contain negative numbers. While the Wyoming Correctional Facility stands out as a particularly large example of a negative number result in the block where the prison is located, this is not a unique occurrence and, indeed, also happened in the previous redistricting cycle. The Task Force technical staff considers this contingency to be acceptable as a by-product of the information received from the Census Bureau and DOCCS.

## 2. Prisoner Address Geocoding

The geocoding of prisoner addresses supplied by the New York State Department of Corrections and Community Supervision was performed by making calls to the Google Maps Geocoding API from within a Microsoft Excel-based VBA function. This programming interface allows for the extraction of latitude / longitude coordinates from valid address locations. It also provides information as to the accuracy of the resultant coordinates. Geocoding results were only accepted when street address precision outcomes could be confirmed, and the location sub-node was identified as "rooftop". Instances such as "range interpolated", "geometric center" and "approximate" were rejected and counted as invalid.

The Google Maps Geocoding API is an interface that gives programmers a method to actively send requests to the Google geocoding server through customized scripts and functions in order to obtain geographic coordinates from valid addresses. After addresses were successfully geocoded, the geographic coordinates were converted to Census Bureau tabulation block IDs using the 2020 TIGER/Line redistricting data products.

Next, verification of the coordinate information generated by the Google Maps Geocoding API, Latitude and Longitude points were reverse geocoded to an address. The reverse geocoding process converted latitude / longitude coordinates to a mapped address and then manually compared to the original addresses. Any discrepancies were further investigated using Google StreetView, Bing Maps and street name lists. Addresses were then either adjusted for successful geocoding or rejected as invalid.

After the initial geocoding pass, all subsequent invalid addresses were thoroughly investigated manually. Again, using Google StreetView, Bing Maps and street name lists, many of these initially invalid addresses were effectively geocoded by visually confirming house and building numbers or rectifying street name misspellings. For many apartment complexes and trailer parks Google StreetView and Bing Maps had either poor coverage or limited visibility. In these instances a third source was used, the Cornell University-based New York Block Browser LUCA Evaluation System (NYBBLES) available at:

<https://pad.human.cornell.edu/census2020/nybbles.cfm>

This website allowed for rooftop geocoding of many individual structures in mobile home parks and apartment complexes.

The software was able to assign geographic coordinates for the addresses of 39,027 prisoners.

### 3. Addition (Reallocation)

For prisoner addresses, 39,027 of 42,492 (91.8%) were successfully geocoded to 23,195 unique 2020 census blocks, distributed among all 62 counties statewide. This figure represents 8.03% of the 288,819 unique 2020 census blocks statewide.

### 4. 2020 Group Quarters Data

The 2020 Census Redistricting Data (Public Law [PL] 94-171) Summary File contains data, down to the census-block level, on prisoners (see Attachment #4).

The group-quarters-population table in the file contains one cell, “correctional facilities for adults.” This figure is the sum of: (1) federal detention centers; (2) federal prisons; (3) state prisons; (4) local jails and other municipal confinement facilities; (5) correctional residential facilities; and (6) military disciplinary barracks and jails.

### Data Preparation

The Task Force technical staff created three statewide block-level files, which included every demographic category necessary to accommodate the adjusted data and to make the DOCCS data compatible with PL 94-171 (see Attachment #5). Since DOCCS did not contain categories for Hawaiian or Multiracial, such values were assumed to be zero. One file was generated with all of the geocoded prisoner addresses and racial/ethnic information from DOCCS (to be added to PL 94- 171). Another file was created through aggregating racial and ethnic information by correctional facility and then disaggregating when prisons were located on multiple blocks (proportional to PL 94-171 total population for the blocks involved; later rounded to integers). A third block- level file was produced for federal prisoners. The federal-prisoner population (using Group Quarters data) is equal to the total population (using PL 94-171 data) for these blocks.

The adjustment is based on:

Adjusted PL = PL + Geocoded prisoner addresses – DOCCS facilities – Federal facilities as shown in Attachment #1.

The Task Force uses these standard racial/ethnic categories (based on PL 94-171 format) in its work:

Total NHWhite NHBlack NHAsian NHAmerIndian NHMultiracial NHHawaiian NHOther Hispanic

(NH = Non-Hispanic)

DOCCS uses these demographic categories to classify prisoners:

Race: White Black Asian NativeAmerican(=AmerIndian) Other NotAnswered

Ethnicity: NotHispanic Hispanic Unknown Blank

From these categories, the Task Force technical staff infers:

1. Total White Black NatAmer Asian Multi Hwn Other Unknown

where Unknown includes 218 geocoded prisoners whose race='Not Answered.' See Table 1 in Attachment #1 for 2020 population figures.

2. Total Hisp NHWhite NHBlack NHNatAmer NHAsian NHHwn NHMulti NHOther Unknown\_Eth

where Unknown\_Eth includes 162 geocoded prisoners whose ethnicity= 'U' or blank. See Table 2 in Attachment #1 for 2020 population figures.

3. Total\_VAP White\_VAP Black\_VAP NatAmer\_VAP Asian\_VAP Hwn\_VAP Multi\_VAP Other\_VAP Unknown\_VAP

where Unknown\_VAP includes 218 geocoded prisoners whose race='Not Answered' and who were born before April 1, 2002 (they were 18 years old by April 1, 2020, the date of the federal decennial census count). See Table 3 in Attachment #1 for 2020 population figures.

4. Total\_VAP Hisp\_VAP NHWhite\_VAP NHBlack\_VAP NHNatAmer\_VAP NHAsian\_VAP NHHwn\_VAP NHMulti\_VAP NHOther\_VAP Unknown\_VAP\_Eth, where Unknown\_VAP\_Eth includes 162 geocoded prisoners whose ethnicity='U' or blank and who were born before April 1, 2002. See Table 4 in Attachment #1 for 2020 population figures.

### End Products

The adjusted PL 94-171 data, generated at the block level, have been aggregated to the following geographic summary levels: state, county, minor civil division (MCD), voting tabulation district (VTD), and census block. The aforementioned geographic summary levels can be obtained from the Task Force's website.

The adjusted dataset is broken down by age, using both the standard Task Force and the federal Department of Justice (DOJ) racial and ethnic categories (see Attachments # 3, 6). The number of racial and ethnic categories is kept to a minimum, by using the recommended DOJ tabulations, so as to make these categories manageable for users.

The adjusted dataset will also be used to create revised population reports for current and proposed State Assembly and State Senate districts (see Attachment # 2).

Federal Department of Justice (DOJ) Racial/Ethnic Categories

Total Population NH White

NH Black + NH Black&White Biracial NH Asian + NH Asian&White Biracial

NH American Indian + NH American Indian&White Biracial

NH Hawaiian/Pacific Islander + NH Hawaiian/Pacific Islander&White Biracial NH Other Race + NH Other Race&White Biracial

NH Multiple Race Remainder Hispanic

Unknown

(Repeated for voting age population)

(Unknown is added here to conform to DOCCS format) Summary

The Task Force technical staff adjusted the Census Bureau's Public Law 94-171 data for New York State legislative and local redistricting. The adjusted data are only mandated for State Senate and State Assembly districts, and not for Congressional districts. Race, ethnicity, and age characteristics were considered during the adjustment process. DOCCS classifications for race and ethnicity differed from those utilized by the Census Bureau. The Task Force technical staff combined dissimilar datasets, PL 94-171 and DOCCS, and accommodated missing prisoner responses. Subsequently, 39,027 prisoners were reallocated based on information that DOCCS collected from prisoners and provided to the Task Force.

Attachments

1. Pop. Spreadsheet (Pop\_Check.pdf)
2. Prisoner Counts by 2012 Legislative District (Counts\_by\_2012\_district.pdf)
3. Data Fields (Data\_dictionary.pdf)
4. Group Quarters (Grp\_Quart.pdf)
5. PL 94-171 Tables (PL\_Tables.pdf)
6. DOJ Variables (DOJ\_Vars.pdf)
7. DOCCS Prison Data (Prison\_Blк\_Pop1.pdf)
8. Federal Prison Data (Prison\_Blк\_Pop2.pdf)