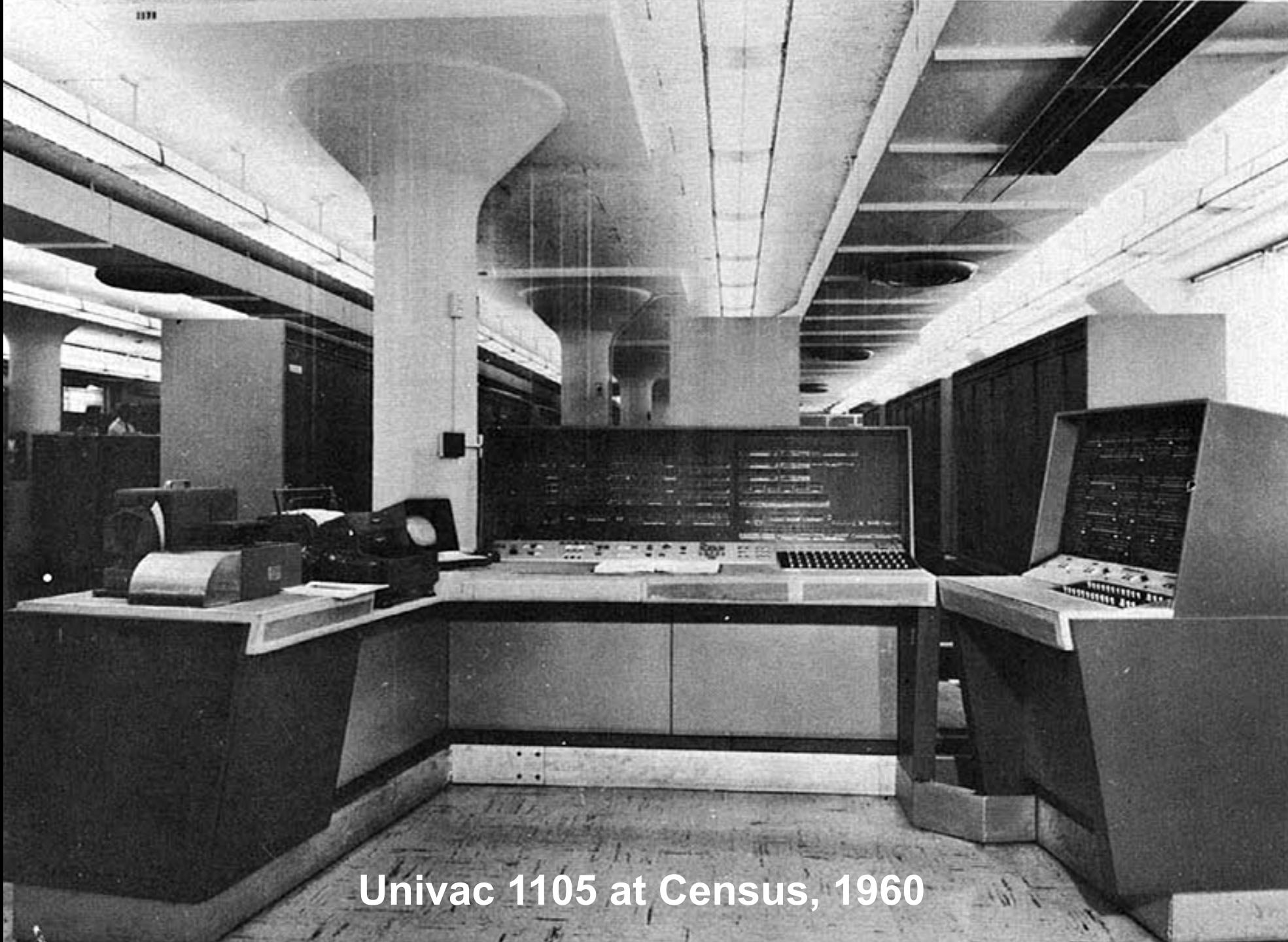


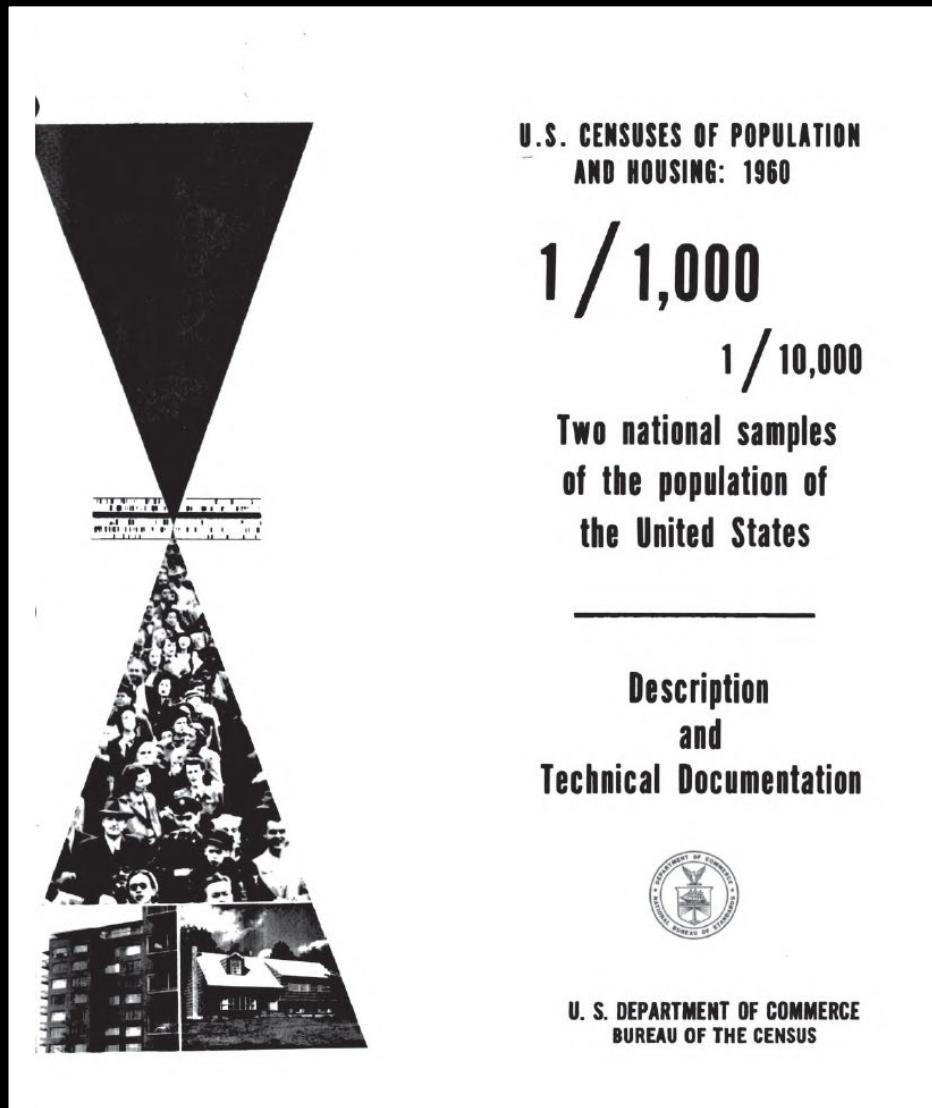
# History of IPUMS

Data-Intensive Research Workshop  
July 31, 2023



Univac 1105 at Census, 1960

# The Invention of Microdata: The 1960 Census Samples



Cover, 1960 Census Microdata Codebook



Distributed on 13 Univac Tapes  
(or 180,000 punch cards)

# School enrollment, 1950 Census

Table 42.—SCHOOL AND KINDERGARTEN ENROLLMENT, BY AGE, FOR THE UNITED STATES, URBAN, AND RURAL NONFARM AREAS

[Based on 20-percent sample. For totals of age groups from complete count, see table 38. Percent not shown where less than 0.1 or where below 5,000.]

Age	United States			Urban			Rural nonfarm		
	Population	Enrolled		Population	Enrolled		Population	Enrolled	
		Number	Percent		Number	Percent		Number	Percent
<b>SCHOOL ENROLLMENT</b>									
Total, 5 to 29 years old.....	58,708,860	28,984,985	49.4	35,928,820	17,178,935	47.8	12,853,930	6,296,570	49.0
5 and 6 years.....	5,490,200	2,160,160	39.3	3,156,225	1,297,670	41.1	1,301,890	480,065	36.9
7 to 13 years.....	16,801,950	16,077,270	95.7	9,363,045	9,002,225	96.1	3,921,845	3,744,725	95.5
14 and 15 years.....	4,267,680	3,963,575	92.9	2,332,850	2,211,225	94.8	963,525	887,380	92.1
16 and 17 years.....	4,175,195	3,104,265	74.4	2,334,415	1,839,365	78.8	924,350	649,040	70.2
18 and 19 years.....	4,344,325	1,400,700	32.2	2,686,440	980,435	36.5	932,590	238,415	25.6
20 to 24 years.....	11,440,095	1,480,745	12.9	7,680,440	1,215,615	15.8	2,352,865	188,195	8.0
25 to 29 years.....	12,189,415	798,270	6.5	8,375,405	632,400	7.6	2,456,865	108,750	4.4
<b>KINDERGARTEN ENROLLMENT</b>									
Total, 5 and 6 years old.....	5,490,200	898,970	16.4	3,156,225	742,835	23.5	1,301,890	111,695	8.6

# The Power of Microdata

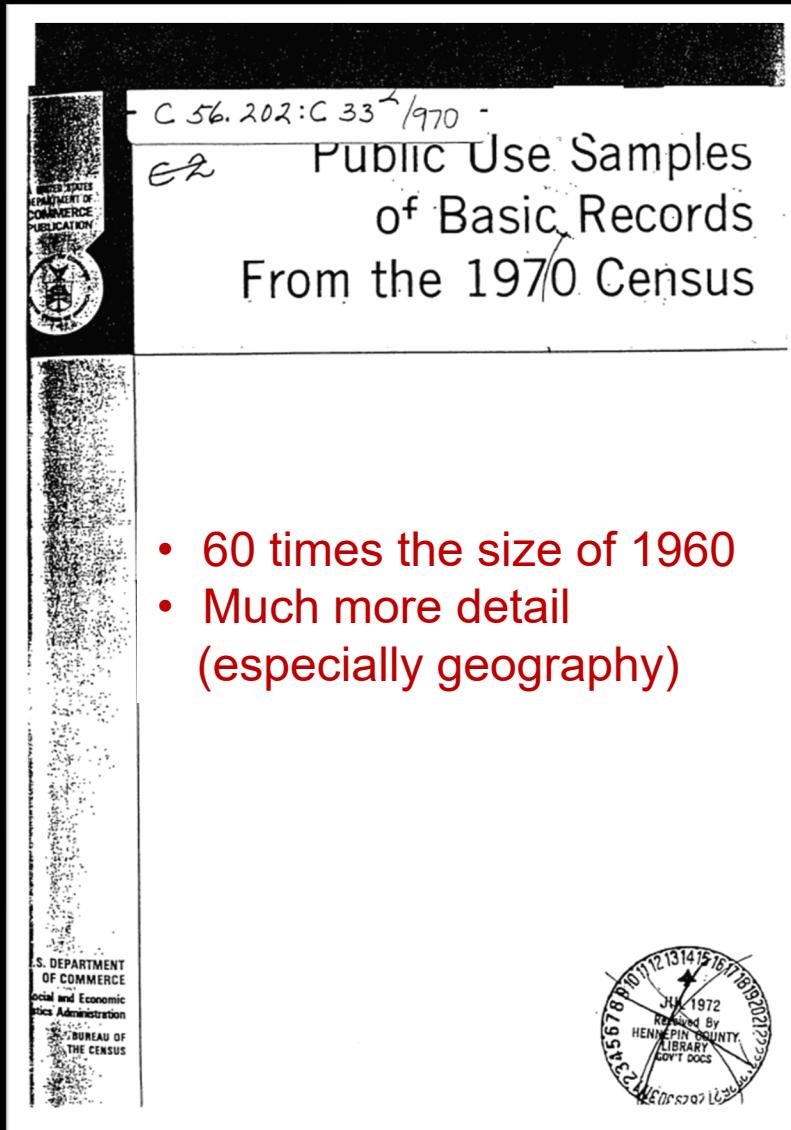
- **Customized measures:** Variables based on combined characteristics of family and household members, capitalizing on the hierarchical structure of the data
- **Multivariate analysis:** Analyze many individual, household, and community characteristics simultaneously
- **Interoperability:** Harmonize data across time and space

## Age classification for school enrollment in published U.S. Census

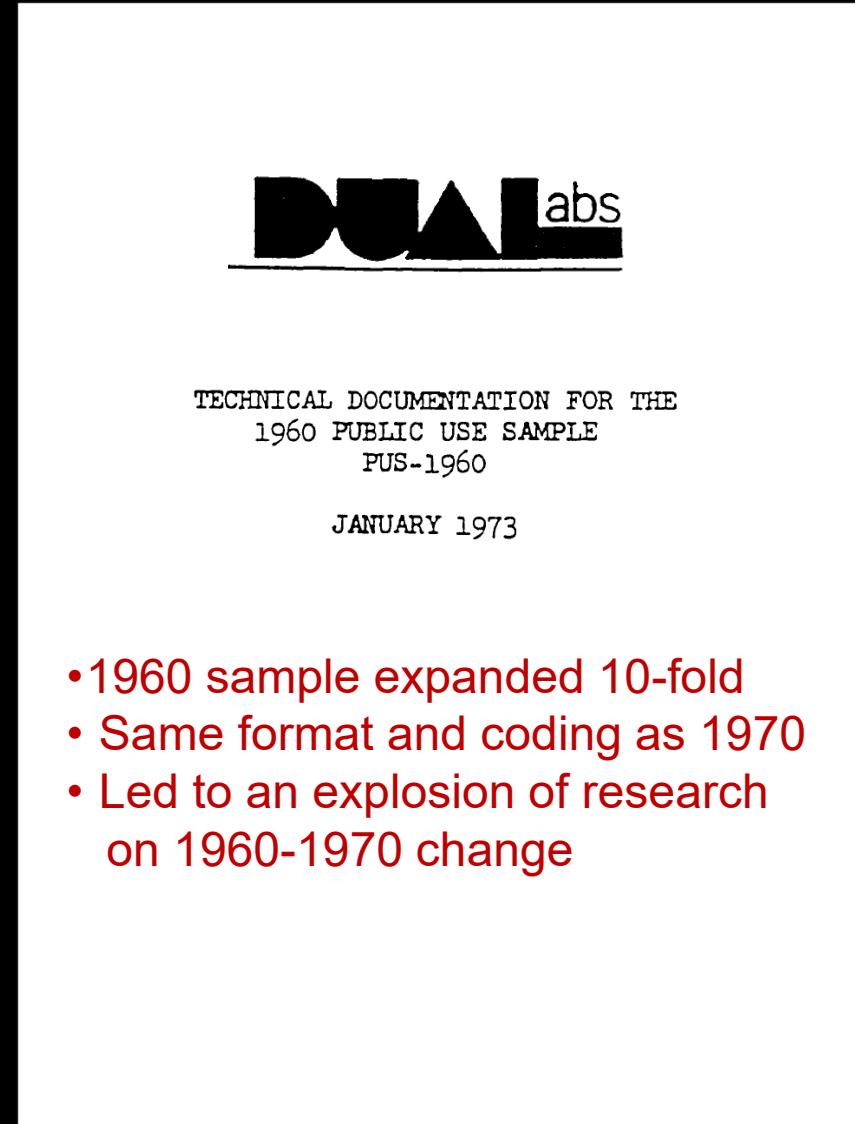
1980	1990	2000
5-6	5-6	5-9
7-13	7-9	10-14
14-15	10-14	15-17
16-17	15-17	

Relationship	Age	Sex	School	Occupation
Head/Householder	34	Male	No	Operative and kindred worke...
Spouse	34	Female	No	Telegraph operators
Child	11	Male	Yes	N/A (blank)
Child	7	Female	Yes	N/A (blank)
Parent-in-Law	76	Female	No	N/A (blank)
Head/Householder	48	Male	No	Carpenters
Spouse	47	Female	No	Bookkeepers
Child	13	Male	Yes	N/A (blank)
Child	11	Female	Yes	N/A (blank)
Head/Householder	54	Female	No	Stenographers, typists, and ...
Parent	82	Male	No	N/A (blank)
Head/Householder	64	Male	No	Laborers (nec)
Spouse	67	Female	No	N/A (blank)
Child	39	Male	No	N/A (blank)
Head/Householder	46	Male	No	Hucksters and peddlers
Spouse	42	Female	No	Barbers, beauticians, and m...
Child	18	Male	No	Laborers (nec)
Child	14	Male	Yes	N/A (blank)

# The 1970 Public Use Samples



- 60 times the size of 1960
- Much more detail  
(especially geography)

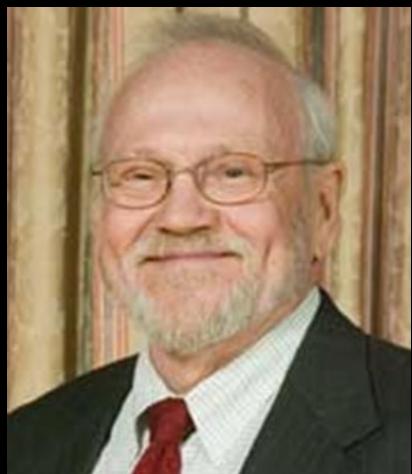


- 1960 sample expanded 10-fold
- Same format and coding as 1970
- Led to an explosion of research on 1960-1970 change

# Extending the Series Backwards



Preston



Winsborough

## 1900 Public Use Sample

- Microfilm became public in 1972 under 72-year rule
- Sample created 1976-1980 at University of Washington
- 100,000 cases (1-in-760 sample)

## 1910 Public Use Sample

- Microfilm released 1982
- Created 1983-1989 at the University of Pennsylvania
- 366,000 cases (1-in-250)

## 1940-1950 Public Use Microdata Samples

- Created 1978-1984 at Census Bureau and University of Wisconsin, with NSF funding
- 3.3 million cases (1-in-100 samples)
- Budget of \$7.4M (32.5M in 2021 \$)

# 1989: 1880 Public Use Microdata Sample

Page No. 13

Supervisor's Dist. No. 2  
Enumeration Dist. No. 96

Note B.—All persons will be included in the Enumeration who were living on the 1st day of June, 1880. No others will. Children BORN SINCE June 1, 1880, will be OMITTED. Members of Families who have DIED SINCE June 1, 1880, will be Received July 22, 1880.

Note C.—Questions Nos. 18, 14, 22 and 23 are not to be asked in respect to persons under 10 years of age.

119

*1<sup>st</sup> District Princeton Township*  
SCHEDULE 1.—Inhabitants in Borough of Princeton, in the County of Mercer, State of New Jersey, enumerated by me on the day of June, 1880.

*Charles H. Reed*

Enumerator.

In Class	Name of Street	House Number.	Families numbered in order of visitation.	Personal Description.												Occupation.												Health.												Education.												Nativity.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
				Color—White, W.; Black, B.; Mulatto, M.; Children, C.; Indian, I.	Sex—Male, M.; Female, F.	Age at last birthday prior to June 1, 1880, if under 1 year, give months in fractions, three; if 3 years or more, give months in fractions, three; if 3½, 3 ½.			Relationship of each person to the head of this family—whether wife, son, daughter, servant, boarder, or other.			Civil Condition.			Profession, Occupation or Trade of each person, male or female.			Number of months this person has been unemployed during the Census year.			Is the person [on the day of the Enumerator's visit] sick or temporarily disabled, so as not to be able to attend to ordinary business or duties? If so, what is the sickness or disability?			Attended school within the Census year, /.			Place of Birth of this person, naming State or Territory of United States, or the Country, if of foreign birth.			Place of Birth of the Father of this person, naming the State or Territory of United States, or the Country, if of foreign birth.			Place of Birth of the Mother of this person, naming the State or Territory of United States, or the Country, if of foreign birth.			Place of Birth of the			Name of the			Place of Birth of the			Name of the																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
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1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				

1990  
1980  
1970  
1960  
1950  
1940  
1910  
1900  
1880



1991: Nine Census Years, All Incompatible

## Relationship Variable (part):

1900 Public Use Sample

72 categories

0	P03	REL	RELATIONSHIP TO HEAD	COLS	9-11
		100	HEAD OF HOUSEHOLD	21336	21.243
		108	PARTNER / COHEAD	173	.172
		120	WIFE OF HEAD	16665	16.592
		128	WIFE OF PARTNER/COHEAD	1	.001
		129	SECOND OR THIRD WIFE OF HEAD	3	.003
		130	CHILD OF HEAD	46174	45.973
		131	STEP-CHILD OF HEAD	755	.752
		132	ADOPTED CHILD OF HEAD	103	.103
		133	SON/DAUGHTER-IN-LAW	466	.464
		136	FOSTER CHILD / FOUNDLING	23	.023
		140	HUSBAND / NOT HEAD	17	.017
		200	RELATIVE - UNSPECIFIED	23	.023
		210	PARENT OF HEAD	920	.916
		211	STEP-PARENT OF HEAD	24	.024
		213	PARENT-IN-LAW OF HEAD	568	.566
		220	BROTHER/SISTER OF HEAD	1325	1.319
		221	STEP/HALF BROTHER/SISTER	12	.012
		223	BROTHER/SISTER-IN-LAW	688	.685
		230	NIECE/NEPHEW	822	.818
		232	ADOPTED NIECE/NEPHEW	1	.001
		233	NIECE/NEPHEW-IN-LAW	4	.004
		237	GRAND NIECE/NEPHEW	15	.015
		240	COUSIN	108	.108
		243	COUSIN-IN-LAW	1	.001
		249	SECOND COUSIN	5	.005
		250	AUNT/UNCLE OF HEAD	99	.099
		253	AUNT/UNCLE-IN-LAW	2	.002
		260	GRANDPARENT OF HEAD	27	.027
		261	STEP-GRANDPARENT	1	.001
		263	GRAND-PARENT-IN-LAW	2	.002
		270	GRANDCHILD OF HEAD	1541	1.534
		271	STEP-GRANDCHILD	33	.033

ITEM DESCRIPTION: Detailed relationship to household head  
RECORD TYPE: P  
BEGIN: 11  
SIZE/SCALE: 2  
UNIVERSE: All persons in households  
SEE GLOSSARY TERMS: Relationship  
SOURCE: Columns 8 and A of the population schedule

## Relationship Variable: 1940 Public Use Sample 23 categories

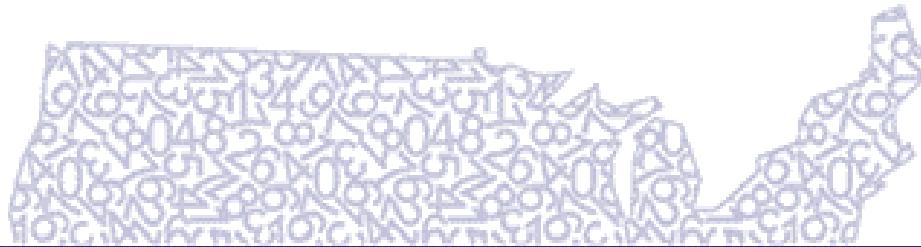
CODE	DESCRIPTION
1	Head
2	Wife
3	Son, daughter
4	Stepson, stepdaughter
5	Son-in-law, daughter-in-law
6	Grandson, granddaughter
7	Father, mother, stepfather, stepmother
8	Father-in-law, mother-in-law
9	Grandfather, grandmother, including in-laws
10	Brother, sister, stepbrother, stepsister, half brother, half sister
11	Brother-in-law, sister-in-law
12	Uncle, aunt, including in-laws
13	Nephew, niece, including in-laws
14	Cousin, including in-laws
15	Relative of head, n.e.c.
16	Roomer, boarder, lodger or his/her relative
17	Domestic employee
18	Nondomestic employee
19	Relative of employee
20	Partner or friend and his/her relatives
21	Ward, foster child
22	Nonrelative of head, n.e.c.
99	Inap. (group quarters)

**Relationship Variables:  
1980 Public Use Sample  
20 unique categories**

RELAT1	2	2
00		Relationship
01		Householder
02		Family member other than householder:
03		Spouse
04		Child
05		Brother or sister
06		Parent
07		Other relative (See RELAT2)
08		Person not related to householder:
09		Roomer or boarder
10		Partner or roommate
11		Paid employee
		Other nonrelative
		In group quarters:
		Inmate
		Noninmate

RELAT2	1	4
0		Detailed Relationship
1		N/A (person not listed as 'other relative' of householder)
2		Son-in-law or daughter-in-law
3		Grandchild
4		Father-in-law or mother-in-law
5		Brother-in-law or sister-in-law
6		Nephew or niece
7		Grandparent
8		Uncle or aunt
9		Cousin
		Other person related by blood or

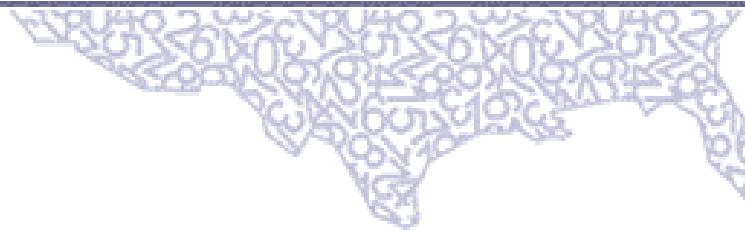
# 1991 IPUMS proposal



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**Integrated Public Use Microdata Series**  
census microdata for social and economic research

---



An integrated database for  
1880, 1900, 1910, 1940, 1950, 1960, 1970, 1980, 1990

- ✓ Harmonized codes
- ✓ Consistent record layout
- ✓ Integrated documentation
- ✓ No loss of information.

## Two Key IPUMS innovations

1991: First structured metadata system for data integration

1995: First interactive data access system, enabling pooling  
multiple datasets, variable selection, and subsetting

##

1880 P	21	23	79
1900 P	09	11	28
1910 P	14	16	
1940 P	11	14	97
1950 P	16	20	63
1960 P	01	02	
1970 P	01	02	105 1
1980 P	02	04	140
1990 P	09	10	184

##

	IPUMS 1880 1900 1910 1940 1950 1960 1970 1980 1990										
#											
HEAD & RELATIVES (1-10):											
Head/Householder	01	01									
	01	01	100	100	100	019901999	0-	0-	000	00	
							00	00			
Spouse	02	01									
	02	01	120	120	120	029902999	1-	1-	010	01	
Husband, not Head	02	01	140	140							
2nd/3rd Wife (PG)	02	02	121	129							
Child	03	01									
Incl Adopted, Step	03	01	130	130	130	039903999	2-	2-	020	02	
	03	01					20		20		
(1970 screw-ups)	03	01						22			
(1970 screw-ups)	03	01					26				
Adopted Child	03	02	132	132	132						
Stepchild	03	03	131	131	131	049904999			03		
Adopted, ns	03	04				280					
Child-in-law	04	01									
	04	01	133	133	133	059905999	30	30	051	*	
Step Child-in-law	04	02	134		134						
Parent	05	01									
	05	01	210	210	210	079907999	32	32	040	05	
Stepparent	05	02	211	211	211						
Parent-in-Law	06	01									
	06	01	213	213	213	089908999	33	33	053	*	
Stepparent-in-law	06	02	214		214						
Sibling	07	01									
	07	01	220	220	220	109910999	34	34	030	04	
Step/Half/Adopted Sibling	07	02	221	221	221						
	07	02				222					
	07	02				223					
Sibling-in-Law	08	01									
	08	01	223	223	224	119911999	35	35	054	*	
Step/Half Sib-in-law	08	02				225					
	08	02	222		226						
Grandchild	09	01									
	09	01	270	270	270	069906999	31	31	052	06	
Adopted Grandchild	09	02	272	272	272						
Step Grandchild	09	03	271	271	271						
Grandchild-in-law	09	04	273	273	273						
Other Relatives	10	00	*	*	*	*	*	*	*	*	
Other Relatives, ns	10	01	200	200	299					*	
Grandparent	10	11	260	260	260	000000000	056	056	*	*	

# 1991: First structured metadata system for data integration

RELATE.TRN  
Relationship

```
##  
1880 P 21 23 79  
1900 P 09 11 28  
1910 P 14 16  
1940 P 11 14 97  
1950 P 16 20 63  
1960 P 01 02  
1970 P 01 02 105 1  
1980 P 02 04 140  
1990 P 09 10 184  
##
```

#  
HEAD & RELATIVES (1-10):  
Head/Householder

Spouse  
Husband, not Head  
2nd/3rd Wife (PG)

Child  
Incl Adopted, Step

(1970 screw-ups)  
(1970 screw-ups)

Adopted Child

Stepchild

Adopted, ns

Child-in-law

Step Child-in-law

Parent

# 1991: First structured metadata system for data integration

IPUMS 1880 1900 1910 1940 1950 1960 1970 1980 1990

	01 01	100	100	100	019901999	0-	0-	000	00
Head/Householder	01 01					00	00		
Spouse	02 01	120	120	120	029902999	1-	1-	010	01
Husband, not Head	02 01	140	140						
2nd/3rd Wife (PG)	02 02	121	129						
Child	03 01								
Incl Adopted, Step	03 01	130	130	130	039903999	2-	2-	020	02
(1970 screw-ups)	03 01					20	20		
(1970 screw-ups)	03 01						22		
Adopted Child	03 02	132	132	132					
Stepchild	03 03	131	131	131	049904999				03
Adopted, ns	03 04			280					
Child-in-law	04 01								
Step Child-in-law	04 01	133	133	133	059905999	30	30	051	*
Parent	04 02	134		134					
	05 01								

Input data locations

Data quality flag locations

Original codes

Standardized composite code

Standardized labels

# Excerpt from budget justification 1991 IPUMS proposal to NSF

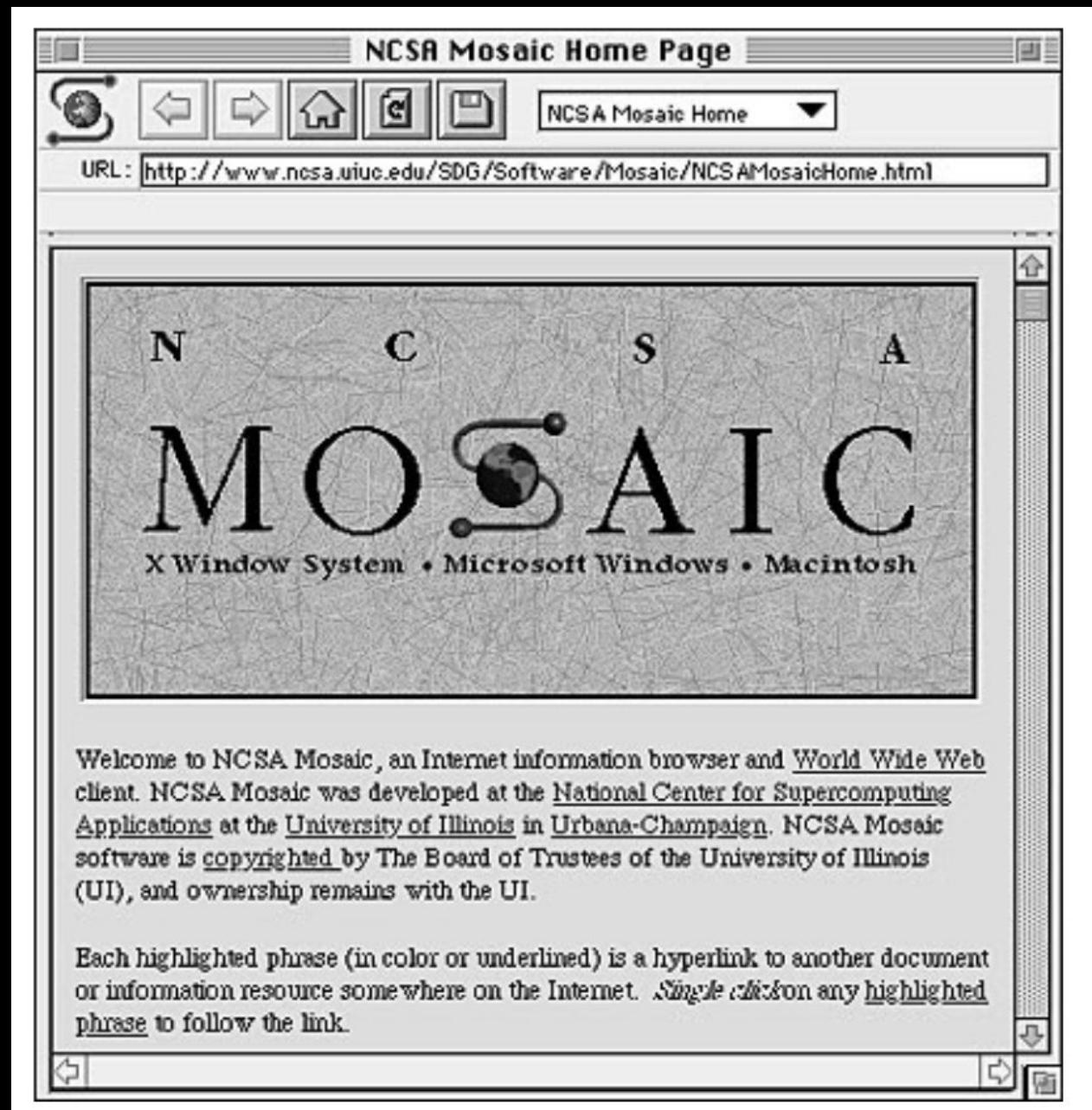
Materials and Supplies. The largest category of supplies is 9-track tapes. Despite their inefficiency for very large data sets, 9-track tapes are presently the only medium used by the Inter-University Consortium for importing and exporting data. Accordingly, we are requesting funds for 150 tapes in the first year and 300 tapes in the final year. For internal storage and backup we will rely on 2 Gbyte Exabyte tape cartridges.

Description of supplies	Year 1	Year 2	Year 3	Total
450 2400' 6250BPI 9-Track tapes	2,048	-	4,095	6,143
200 2 Gbyte Exabyte tape cartridges	600	360	240	1,200
300 1.44 Mbyte 3.5" diskettes	189	189	189	567
Printing supplies	260	260	260	780
General office supplies	500	525	550	1,575
Total	3,597	1,334	5,334	10,265

# FTP log for November 19, 1993: First IPUMS data dissemination via anonymous FTP

```
Mon Nov  8 10:01:38 1993 1 quads.uchicago.edu 742 /pub/gzip/README a _  
Mon Nov  8 10:21:00 1993 1116 quads.uchicago.edu 5552885 /raw1850/raw1  
Tue Nov  9 22:57:22 1993 1 ukanaix.cc.ukans.edu 872 /README a _ o a W  
Tue Nov  9 22:58:56 1993 1 ukanaix.cc.ukans.edu 6455 /raw1850/col1850  
Wed Nov 10 11:13:53 1993 1 ukanaix.cc.ukans.edu 872 /README a _ o a W  
Mon Nov 15 07:43:06 1993 4 131.130.42.102 3460 /nfs/legohead/files0/hd  
Mon Nov 15 10:33:32 1993 1 ukanaix.cc.ukans.edu 872 /README a _ o a W  
Mon Nov 15 13:09:51 1993 1 larry.hist.umn.edu 3460 /nfs/legohead/files  
Mon Nov 15 19:56:26 1993 1 ukanaix.cc.ukans.edu 872 /README a _ o a W  
Wed Nov 17 18:29:02 1993 1 legohead.hist.umn.edu 742 /pub/gzip/README  
Fri Nov 19 11:12:12 1993 876 ucracl.ucr.edu 8909034 /pub/ipums/1880/ip  
Fri Nov 19 11:47:55 1993 1 larry.hist.umn.edu 36434 /nfs/legohead/files  
Fri Nov 19 14:52:40 1993 12866 ucracl.ucr.edu 103703060 /pub/ipums/188  
Sat Nov 20 02:17:29 1993 1 ukanaix.cc.ukans.edu 28 /pub/.message a _ o  
Sat Nov 20 02:18:39 1993 1 ukanaix.cc.ukans.edu 6455 /raw1850/col1850  
Sat Nov 20 16:53:06 1993 1 ukanaix.cc.ukans.edu 872 /README a _ o a W  
Sat Nov 20 16:54:18 1993 1 ukanaix.cc.ukans.edu 18 /pub/README a _ o a W
```

On November 11, 1993,  
eight days before the first  
IPUMS Internet download, an  
undergraduate from the  
University of Illinois released  
the first successful web  
browser for a PC:  
NCSA Mosaic 1.0



# Welcome to the Social History Research Lab!

## University of Minnesota

This web site currently contains the data and documentation for the **Integrated Public Use Microdata Series (IPUMS)**. The **IPUMS** is a database consisting of 23 samples of the U.S. Census from 1850 to 1990. The **IPUMS** assigns the different samples consistent codes and integrates their documentation. At present, you may only download compressed **IPUMS** data files. To obtain a DOS decompression program click [here](#).

If you need uncompressed data or have any other questions about the IPUMS database, contact us at  
[ipums@atlas.socsci.umn.edu](mailto:ipums@atlas.socsci.umn.edu)

If you have problems, questions, or suggestions about this page, send e-mail to [block@torgo.hist.umn.edu](mailto:block@torgo.hist.umn.edu)

The User's Guide for the IPUMS is available online in Word 6.0 format (see below). This document is 800 pages long, and is contained in 61 separate files. A printed version is available from us for \$30; contact [ipums@atlas.socsci.umn.edu](mailto:ipums@atlas.socsci.umn.edu)

### IPUMS DATA FILES:

To download an IPUMS sample, just click on it:

[1850 sample \(6.9M\)](#)

[1880 sample \(21.1M\)](#)

[1900 sample \(3.6M\)](#)

[1910 sample \(14.0M\)](#)

[1920 sample \(14.4M\)](#)

[1940 sample \(62.4M\)](#)

[1950 sample \(72.8M\)](#)

[1960 sample \(77.4M\)](#)

March 10, 1995:  
The first IPUMS  
website

Among the first  
15,000



IPUMS Team, 1995

# IPUMS Data Extract

## Sample Selection

[Reset Values](#)

[Continue To Variable Selection](#)

What is your email address?

### Census Year

NOTE: IPUMS-95 contains only the 1970 5% and 15% state and county group samples, the 1980 B sample, and the 1990 1% sample.

- 1850 Sample
- 1880 Sample
- 1900 Sample
- 1910 Sample
- 1920 Sample
- 1940 Sample
- 1950 Sample
- 1960 Sample
- 1970 5% State Sample
- 1970 15% State Sample
- 1980 B Sample
- 1990 1% Sample

### Sample Density

- Tiny
- Small
- Regular

### File Type

- Flat
- Hierarchical

### Data Quality Flags

- Include all data quality flags

# November 5, 1995: Interactive data extract system

**Step 1:**  
select census  
years, sample  
density, and  
desired format

# IPUMS Data Extract Variable Selection

## Household Variables

<input type="checkbox"/>	<i>Technical Variables</i>
<input type="checkbox"/>	<a href="#">RECTYP</a> <a href="#">Record type</a>
<input type="checkbox"/>	<a href="#">YEAR</a> <a href="#">Census year</a>
<input type="checkbox"/>	<a href="#">DATANUM</a> <a href="#">Data set number</a>
<input type="checkbox"/>	<a href="#">SERIAL</a> <a href="#">Household serial number</a>
<input type="checkbox"/>	<a href="#">NUMPREC</a> <a href="#">Number of person records following</a>
<input type="checkbox"/>	<a href="#">SUBSAMP</a> <a href="#">Subsample number</a>
<input type="checkbox"/>	<a href="#">HHWT</a> <a href="#">Household weight</a>
<input type="checkbox"/>	<a href="#">NUMPERHH</a> <a href="#">Number of person in household</a>
<input type="checkbox"/>	<a href="#">DWSIZE</a> <a href="#">Dwelling size</a>
<input type="checkbox"/>	<a href="#">NMEMBERS</a> <a href="#">Number of members in sample unit</a>
<input type="checkbox"/>	<a href="#">NUMHH</a> <a href="#">Number of households in dwelling</a>
<input type="checkbox"/>	<a href="#">NUMHHTAK</a> <a href="#">Number of households sampled from dwelling</a>
<input type="checkbox"/>	<a href="#">UNREL</a> <a href="#">Unrelated persons in household</a>
<input type="checkbox"/>	<a href="#">SLPERNUM</a> <a href="#">Sample line person number</a>
<input type="checkbox"/>	<a href="#">SELFWTHH</a> <a href="#">Self-weighting sample identifier</a>

<input type="checkbox"/>	<i>Location Characteristics</i>
<input type="checkbox"/>	<a href="#">REGION</a> <a href="#">Census region and division</a>
<input type="checkbox"/>	<a href="#">STATEICP</a> <a href="#">State (ICPSR code)</a>
<input type="checkbox"/>	<a href="#">STATEFIP</a> <a href="#">State (FIPS code)</a>

**Step 2:**  
select variables

# IPUMS Data Extract Case Selection

[Clear](#) [Submit](#)

## Household Variables

<a href="#">Region</a>	<input type="checkbox"/> New England <input type="checkbox"/> Middle Atlantic <input type="checkbox"/> East North Central <input type="checkbox"/> West North Central <input type="checkbox"/> South Atlantic <input type="checkbox"/> East South Central <input type="checkbox"/> West South Central <input type="checkbox"/> Mountain <input type="checkbox"/> Pacific <input type="checkbox"/> Military/Military reservations <input type="checkbox"/> PUMS boundaries cross state lines <input type="checkbox"/> State not identified
------------------------	--

<a href="#">State</a>	Alabama Alaska Arizona Arkansas California Colorado Connecticut Delaware District of Columbia Florida
-----------------------	--

## Person Variables

<a href="#">Age</a>	from <input type="text" value="0"/> to <input type="text" value="All"/>
<a href="#">Sex</a>	<input type="checkbox"/> Male <input type="checkbox"/> Female
<a href="#">Race</a>	<input type="checkbox"/> White <input type="checkbox"/> Black/Negro <input type="checkbox"/> American Indian <input type="checkbox"/> Chinese

**Step 3:**  
Subset  
population

RELATE - P 48-49 General

P 48-51 Detailed

### Relationship to household head/householder

#### Availability:

1850	1860	1870	1880	1900	1910	1920	1940	1950	1960	1970	1980	1990
		X	X	X	X	X	X	X	X	X	X	X

#### Universe:

All persons.

#### Codes and Frequencies

#### Description:

RELATE describes an individual's relationship to the head of household or householder. Beginning in 1880, data on household relationship was asked of every person. The *general* relationship code is reasonably comparable across years. The *detailed* code makes distinctions that cannot be made in all years.

The relationship codes are divided into two categories—relatives (codes 1-10) and non-relatives (codes 11-12). The codes for relatives are self-explanatory; the non-relative codes are divided into three groups: "Partner, Friend, Visitor," roughly described as persons who do not pay or work for their accommodations (unless they share ownership), "Other Non-Relatives" including those persons paying or working for accommodations, and "Institutional Inmates." See the comparability discussion for further information about the coding scheme.

#### Comparability:

The general code is comparable across all years. Users should note, however, that there are some fundamental differences between the early period (before 1940) and the later period (1940-1990). Group quarters residence is a primary distinction in the relationship variable for the later period, but before 1940 relationship to head was recorded regardless of group quarters status. Persons classified as related to the head (codes 1 through 10) in the early period would have been classified in the "Other non-relative" category based on their group quarters status in the later years. We decided not to impose consistency because it would have resulted in the loss of too much information in the early period.

Users may recode RELATE for higher comparability, but we recommend caution because a recode may lose considerable information, changing what were considered ordinary households in the early years into group quarters. To impose the 1970 group quarters definition on all years, create

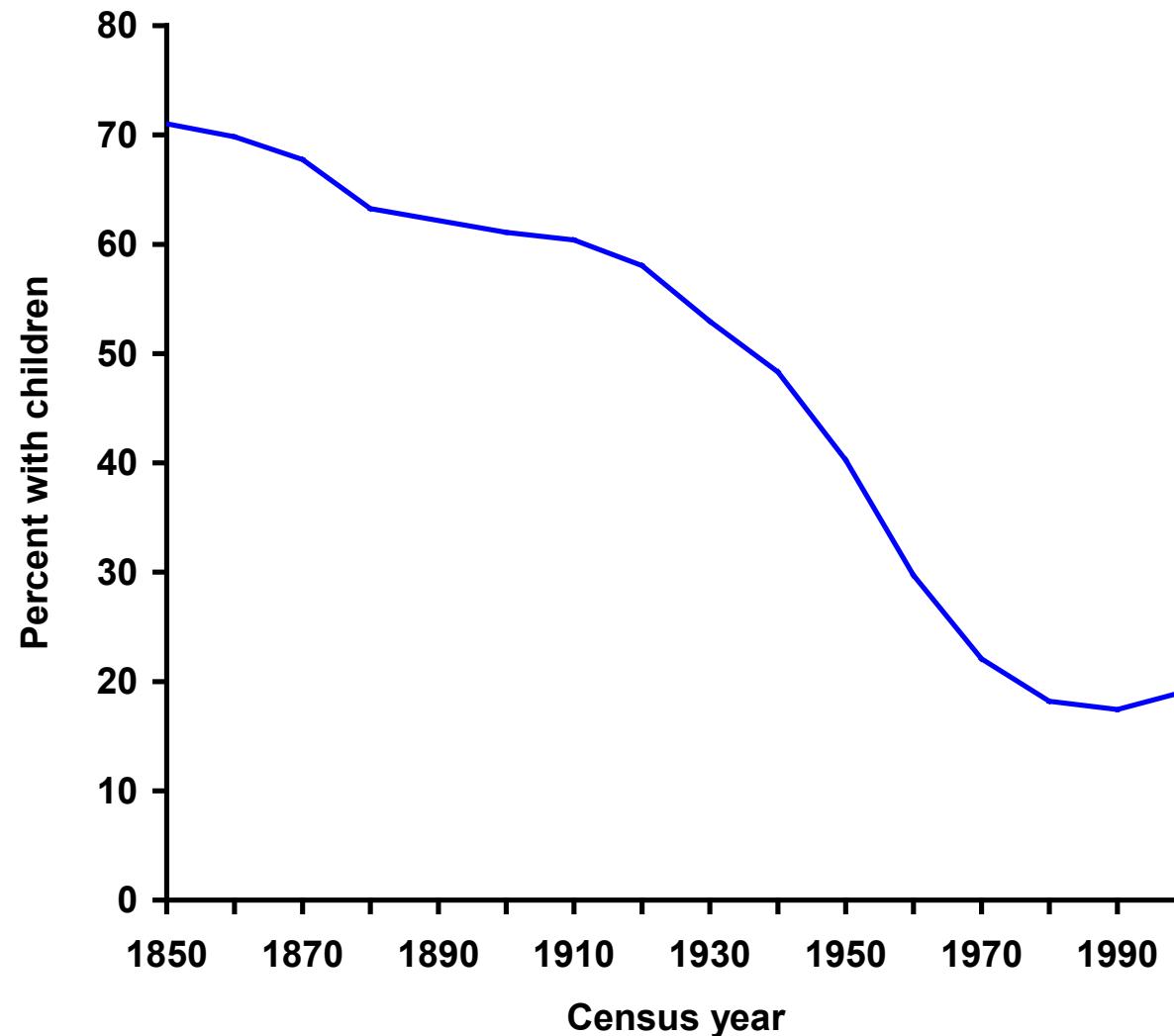
1997:

Hypertext  
variable-level  
documentation  
accessible from  
every stage of  
the extract  
system

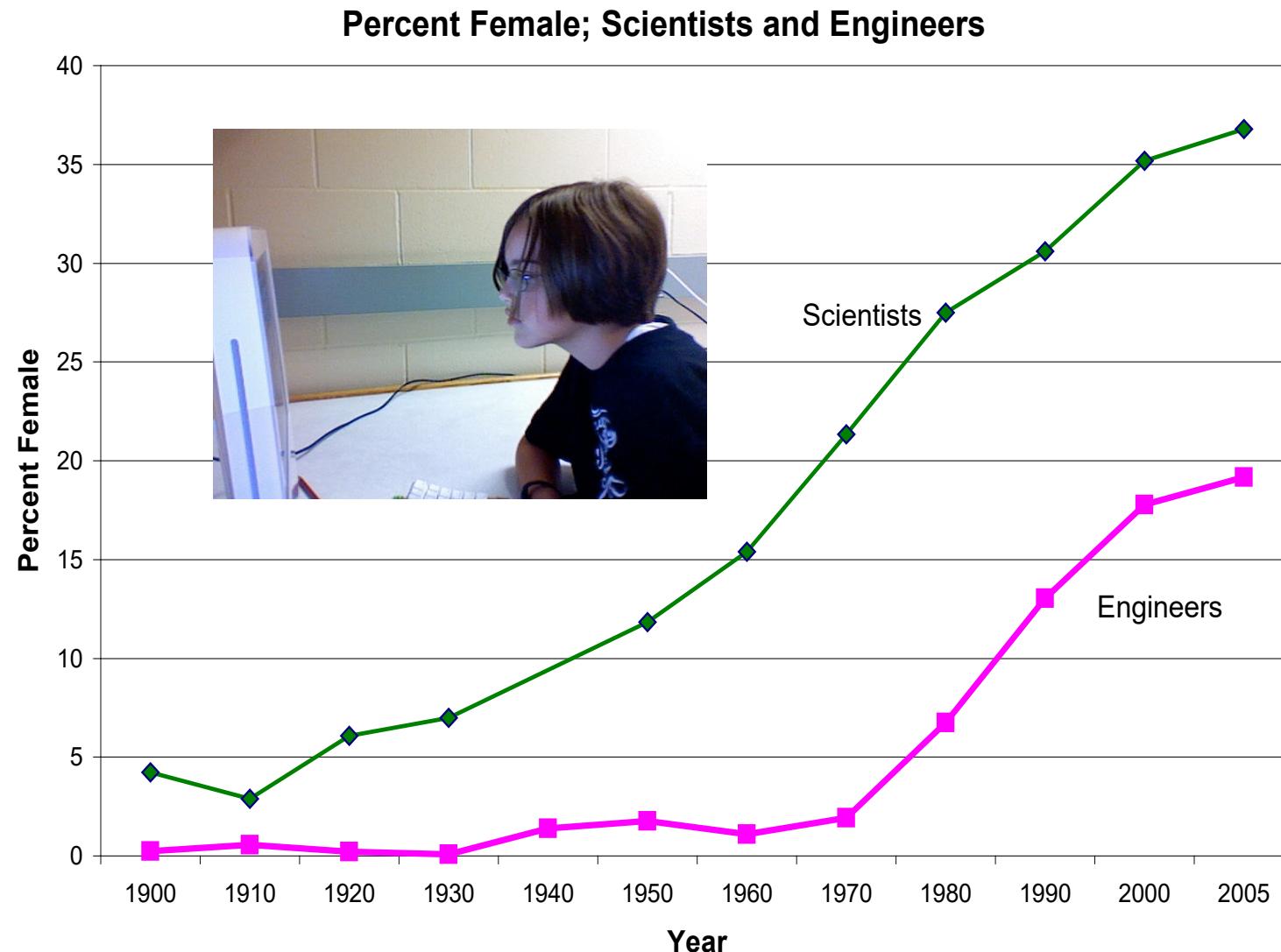
## 1992-2006

- Missing census years added  
(1850, 1860, 1870, 1920, 1930)
- Preston samples expanded  
(1900, 1910)

# Percent of elderly (65+) residing with own children: United States, 1850-2000



# IPUMS Graph from “A Century of Women in Science and Engineering,” 2006 History Day project by Abby Norling-Ruggles, age 12



# IPUMS Big Data Developments of 1999

- IPUMS International
- Full-Count Microdata

# 1999: IPUMS International



## *IPUMS-International*

International Integrated Microdata Access System

- [Sun Microsystems Provides Equipment Grant \(Press Release 4-26-00\)](#)
- [Announcement of Funding \(Press Release 9-15-99\)](#)
- [Summary](#)
- [Project Proposal to NSF](#)
- [Guidelines for Collaboration](#)
- [Data Security Policy](#)
- [Contacts](#)
- [Microdata Inventory](#)
- [Principles of Harmonization](#)
- [Prototype Application to Use the Microdata](#)
- [Task Force on the 2000 PUMS](#)



Major funding provided by the National Science Foundation

IPUMS-International is affiliated with the [IPUMS project](#)

---

IPUMS-International



Khartoum, CBS-Sudan







## 1973 Sudan Census Tapes arrive



# Dhaka, Bangladesh Bureau of Statistics











# IPUMS Full-Count Census Projects

<u>Census</u>	<u>Project start</u>	<u>Major contributors</u>
1880	1999	Church of Latter-Day Saints
1960-2000	2001	Census Bureau
1850	2009	FamilySearch
1940	2012	Ancestry
1860-1870	2015	Ancestry
1900-1930	2015	Ancestry/FamilySearch
1950	2021	Ancestry/FamilySearch



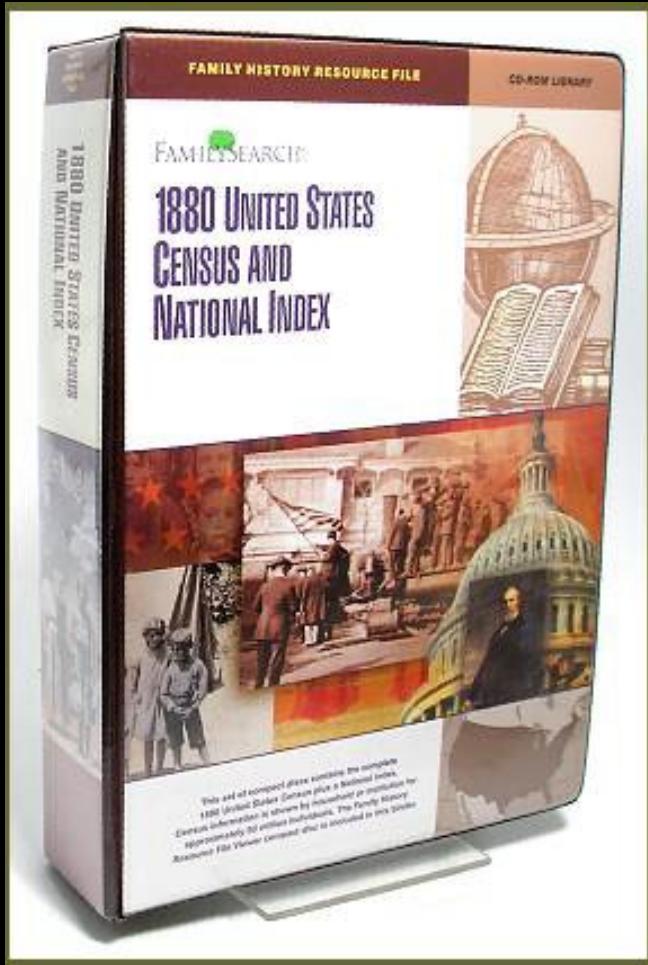
## 1880 U.S. Census to be available on CDs

Published: Saturday, May 26, 2001

The U.S. 1880 Census, the first ever U.S. census published in its complete format, has been automated and the 56-CD-ROM set will be available June 1.

The census extraction project was started 17 years ago and survived through changing intentions and technologies. After 11.5 million hours of work by dedicated extractors, the huge database was submitted to the Minnesota Population Center of the University of Minnesota, which partnered with the Family and Church History Department in the considerable work of cleaning up and completing the project. The record is composed of 35 data CDs, 20 Index CDs and a viewer CD and will sell for \$49.

With 50.5 million names, the record has twice as many names as the recently announced Ellis Island Records (24 million names), and has 12 times (6.5 million) as many names of African-Americans as the recently announced Freedman's Bank Records (480,000 names). It is a fully extracted record with every name indexed.



56 CD-ROM Set

# Collaboration with the Latter-Day Saints



Presented to the  
MINNESOTA  
POPULATION CENTER  
UNIVERSITY OF  
MINNESOTA

For their exceptional contribution to the development of the

1880

UNITED STATES  
CENSUS ON COMPACT  
DISC

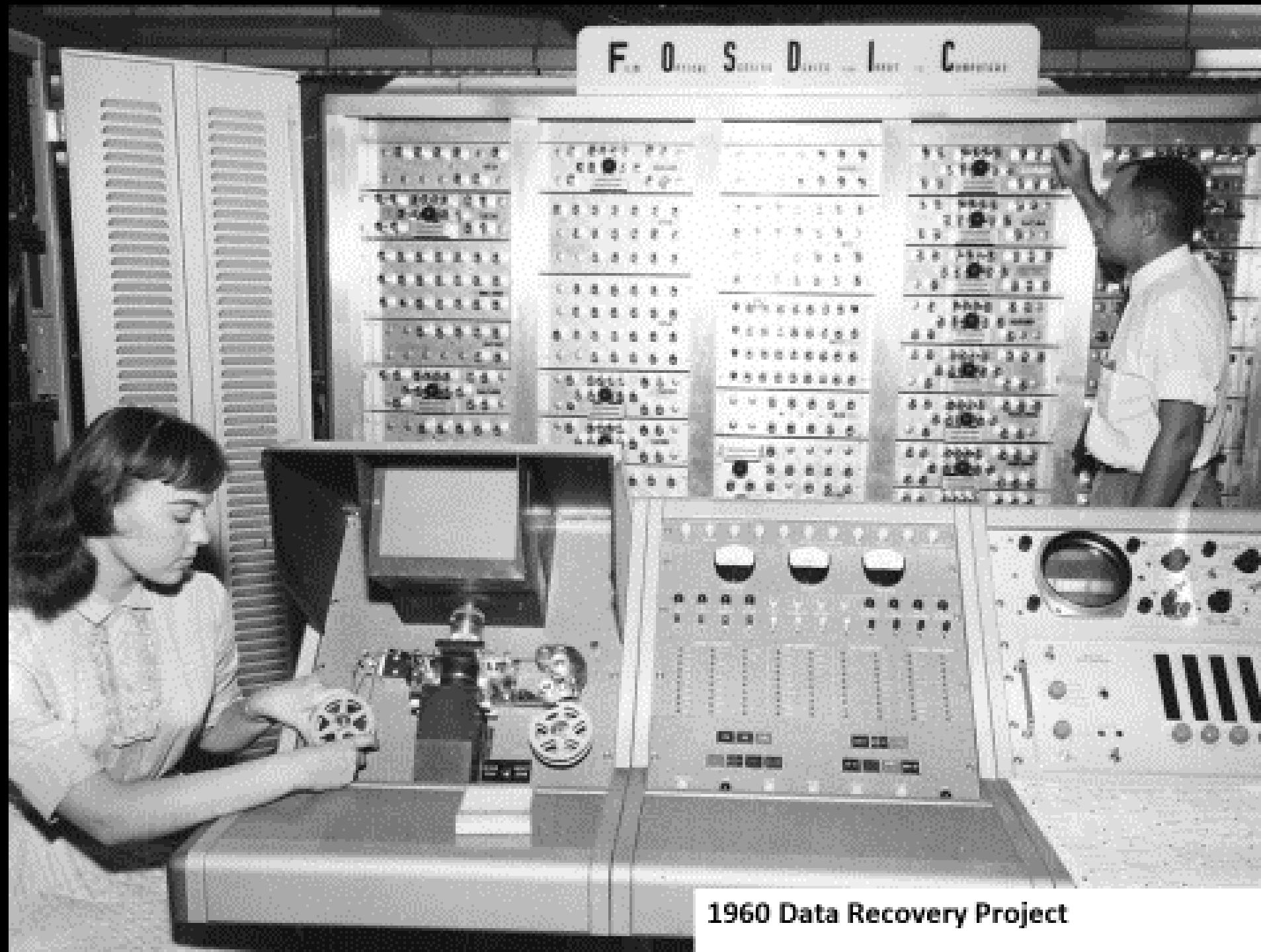
In Cooperation with  
The Church of Jesus Christ  
of Latter-day Saints

2002



## 2001: National Historical Census Files Project

1. Recover, clean, document, and verify the complete 1960, 1970, 1980, and 1990 long-form and short-form microdata
2. Create an IPUMS-compatible version of internal census microdata files from 1960 to the present



1960 Data Recovery Project

P22. Did this person work at any time last week?

Include part-time work such as a Saturday job, delivering papers, or helping without pay in a family business or farm. Do not count own housework.

Yes.....

No.....

P23. How many hours did he work last week (at all jobs)?

(If exact figure not known, give best estimate)

1 to 14 hours.....

40 hours.....

15 to 29 hours.....

41 to 48 hours.....

30 to 34 hours.....

49 to 59 hours.....

35 to 39 hours.....

60 hours or more.....

P24. Was this person looking for work, or on layoff from a job?

Yes.....

No.....

P25. Does he have a job or business from which he was temporarily absent all last week because of illness, vacation, or other reasons?

Yes.....

No.....

P26. When did he last work at all, even for a few days?

(Check one box)

Working now.....

1949 or earlier.....

In 1960.....

In 1959.....

Never worked.....

1955 to 1958.....

1950 to 1954.....

P27. Occupation (Answer 1, 2, or 3)

1. This person last worked in 1949 or earlier.....

This person has never worked.....

OR

2. On active duty in the Armed Forces now.....

OR

If this person worked last week, answer questions P28 and P29.



P28. What city and county did he work in last week?

If he worked in more than one city or county, give place where he worked most last week.

a. City or town.....

b. If city or town—Did he work inside  
the city limits?.....

{ Yes.....  
No.....

c. County..... State.....

P29. How did he get to work last week?

(Check one box for principal means used last week)

Railroad..... Taxicab..... Walk only.....

Subway or  
elevated..... Private auto  
or car pool..... Worked at  
home.....

Bus or  
streetcar..... Other means—Write in:.....

P30. Last year (1959), did this person work at all, even for a few days?

Yes.....



P31. How many weeks did he work in 1959, either full-time or part-time? Count paid vacation, paid sick leave, and military service as weeks worked.

(If exact figure not known, give best estimate)

13 weeks or less..... 40 to 47 weeks.....

14 to 26 weeks..... 48 to 49 weeks.....

27 to 39 weeks..... 50 to 52 weeks.....

P32. How much did this person earn in 1959 in wages, salary, commissions, or tips from all jobs?

Before deductions for taxes, bonds, dues, or other items.

(Enter amount or check "None." If exact figure not known, give best estimate.)



or none? ..

sales of crops,  
farm products  
to—  
-----

or none? ..

**SCANT**  
ment, "flat",  
unit

-----

-----

-----

-----

-----

-----

-----

-----

-----

-----

Bottled, tank, or LP gas ..  -----  -----

Electricity -----  -----  -----

Fuel oil, kerosene, etc. ..  -----  -----

Other -----  -----  -----

No fuel used ..  -----  -----

**H35a.**  
What

**H23.** Is there a clothes  
washing machine  
in this unit?

Wringing or spinner ..

Automatic or semi-automatic ..

Washer-dryer combination ..

No washing machine ..

**H36.** If  
any one  
by per  
unit?

**H24.** Is there a clothes dryer  
in this unit?

Electric ..

Gas ..

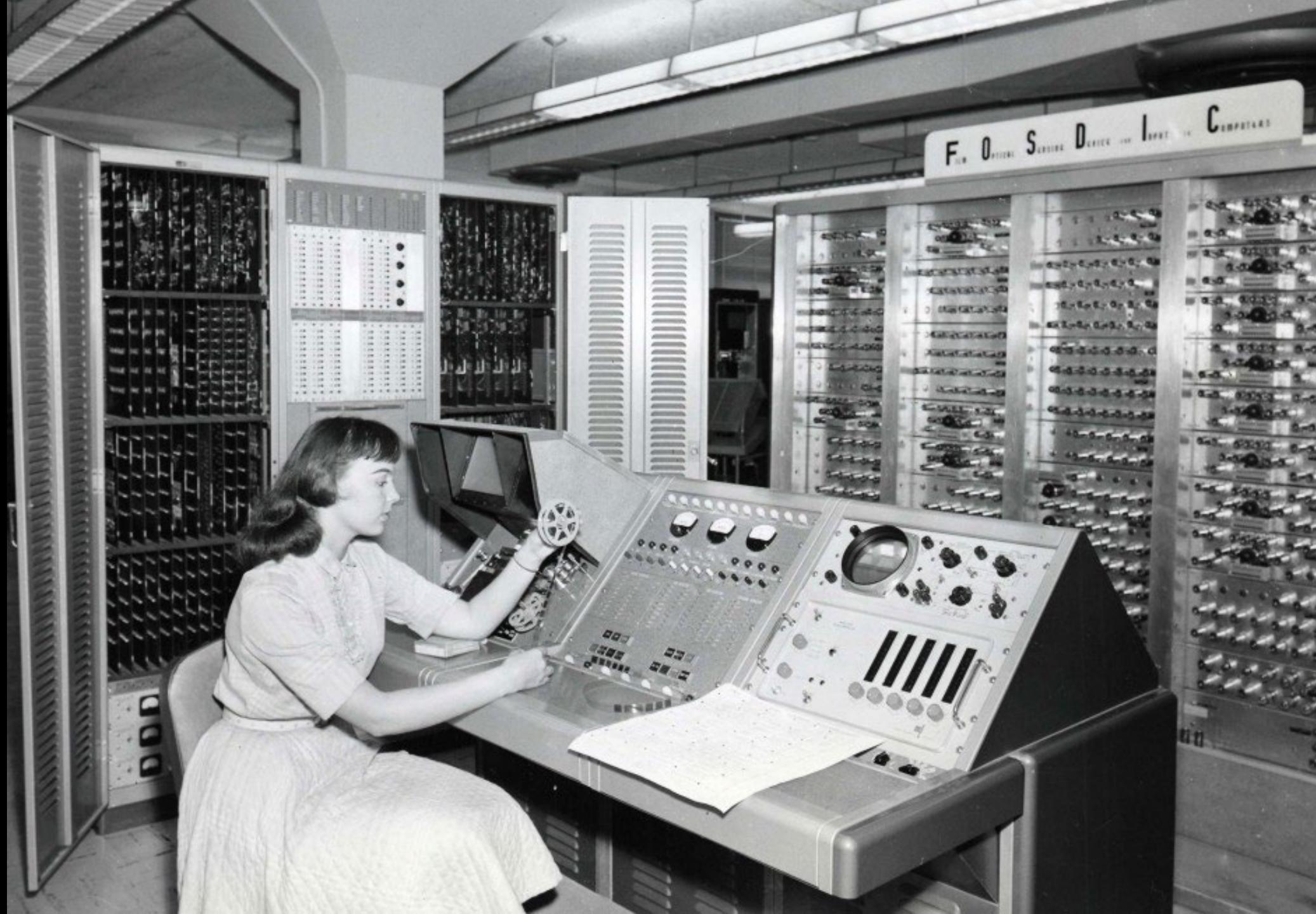
No clothes dryer ..

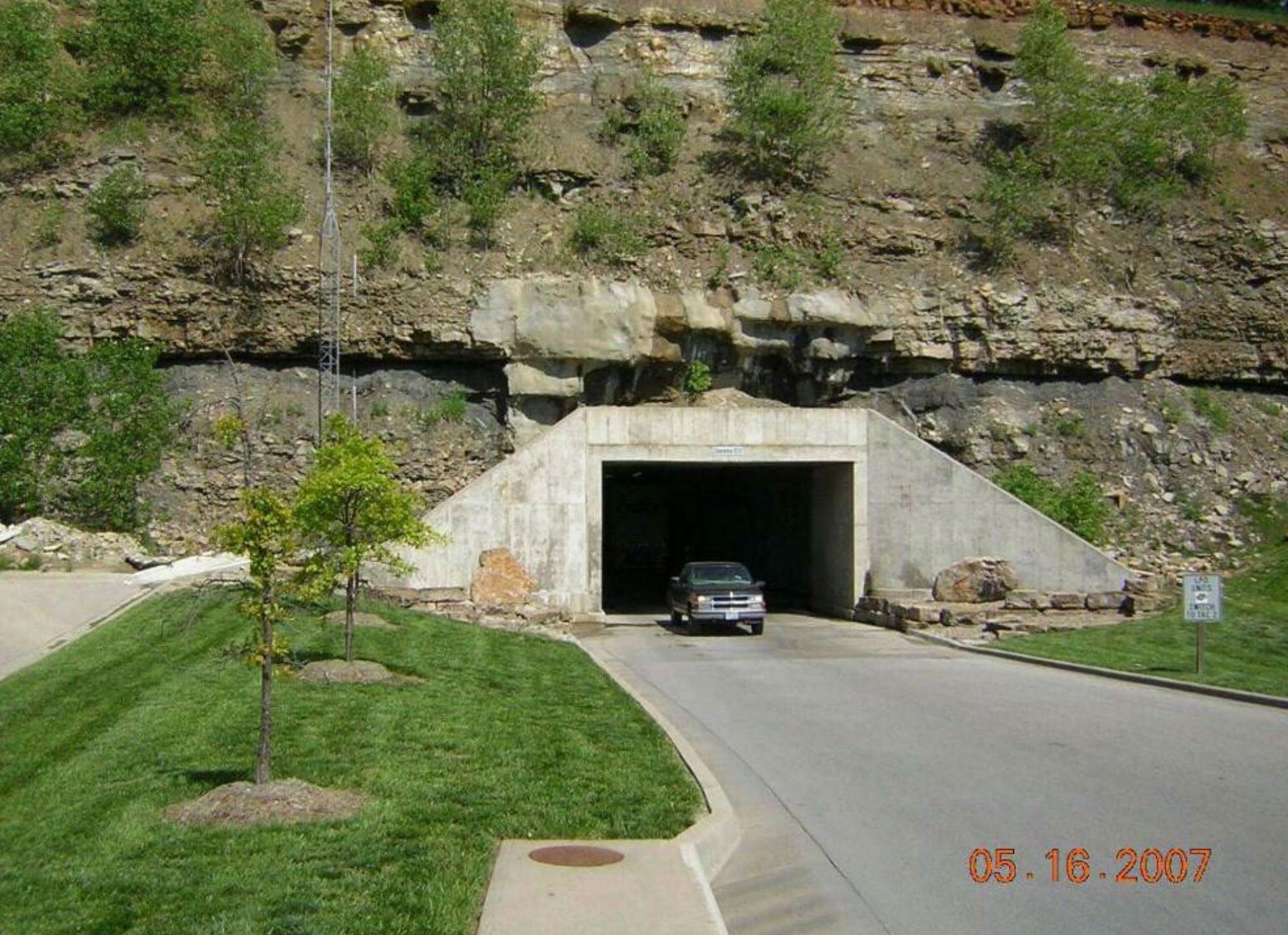
*Includ  
kept a*

**H25.** Is there television

Yes ..

Yes ..





05.16.2007



05.16.2007



09.20.2007



IPUMS

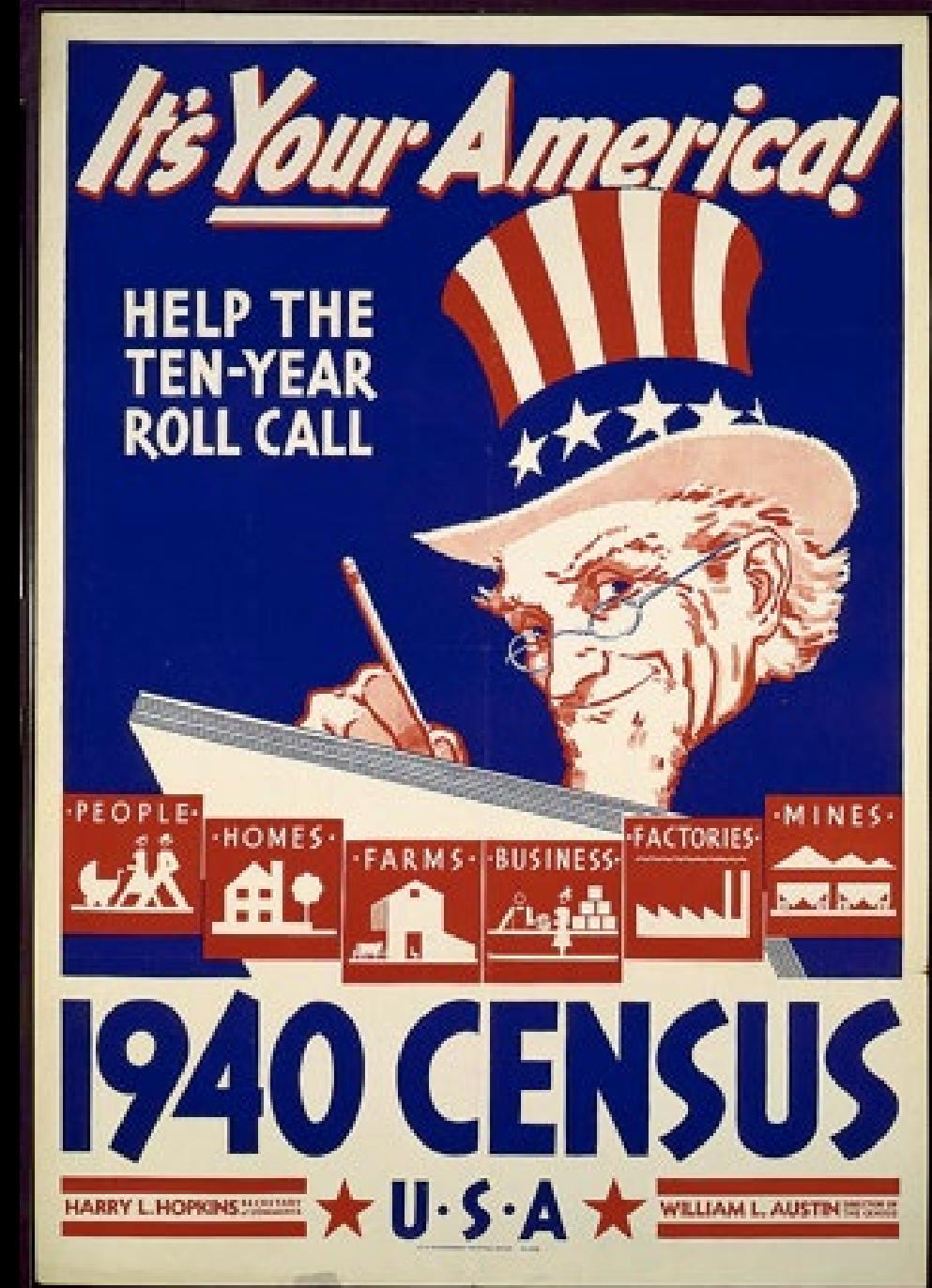
2012: 1940 Census Project

132 Million Persons

71 Fields

8.6 billion keystrokes

Funding from NIA, NICHD, NSF

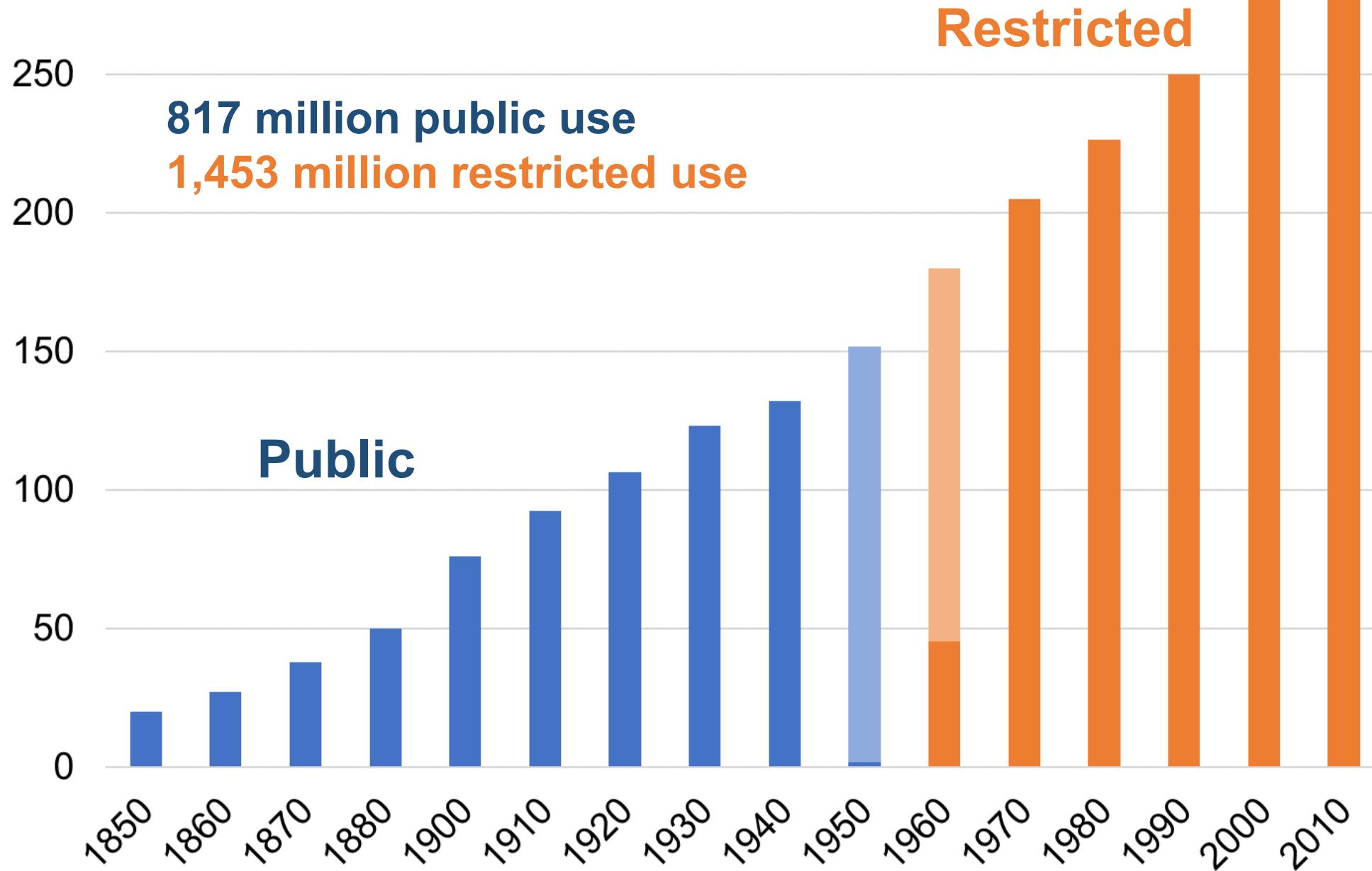




## 2015: Big Microdata Expansion Project

- 1790-1840 Household data
- 1860-1870 Ancestry genealogical data
- 1900-1930 Ancestry/FamilySearch merged data
- 1860-1930 missing fields keyed

# Cases Available in Full-count Microdata (millions)





2001

**NHGIS Home**

Search

[NHGIS Home](#) | [Proposal](#) | [Downloads](#)

View the [full text](#) of the project proposal submitted in Fall 2000 (222 KB; PDF)

There is a [postdoctoral associate position](#) open for this project.

## **NHGIS Overview**

This project makes the census accessible to researchers within the framework of a comprehensive National Historical Geographic Information System (NHGIS). United States summary census data are the primary source of statistical information about growth and change of the American population. The great bulk of these data exist in machine-readable form, but they are largely inaccessible. Approximately 670 gigabytes of data covering the period 1790 through 2000 exist or are in preparation, but they are scattered across dozens of archives and stored in incompatible formats on CD-ROM, magnetic tape, or paper. Only a small fraction of these data are available on the Internet, and even those offer only primitive documentation and extraction tools. Moreover, census summary data cannot be effectively exploited without clear definitions of each geographic unit, but high-quality electronic boundary files exist only for the 1990 census year.

Technological change presents an unprecedented opportunity to make these data readily available for social science research. Bringing the complete census

2003



[Home](#)  
[IHIS Components](#)  
[Benefits](#)  
[Collaborators](#)  
[NHIS](#)  
[Staff](#)  
[Advisory Board](#)

## Welcome

The Integrated Health Interview Series (IHIS) is comprised of National Health Interview Survey (NHIS) data and documentation for the period 1963 to 2003. The IHIS will multiply the value of NHIS data by allowing researchers to make consistent comparisons across four decades of dramatic change in public health, and thus to study the health status of Americans as a dynamic process. It will enable a substantial body of new scientific and policy-relevant research into health behavior and disparities, access to and use of medical care, population aging, progress toward public health goals like Healthy People 2010, and many other topics.

**PROJECT**

[About ATUS-X](#)  
[Time Use Variables](#)  
[Demographic Variables](#)  
[Linked CPS Supplements](#)

**EXTRACT BUILDER**

[Build an Extract](#)  
[Download/Revise Extracts](#)

**ATUS DOCUMENTATION**

[About ATUS](#)  
[Samples](#)  
[User's Guides](#)  
[Questionnaires](#)

**USER RESOURCES**

[FAQ](#)  
[Citation and Use](#)  
[Bibliography](#)  
[Revisions](#)

Funding provided by:



## American Time Use Survey Data Extract Builder

ATUS-X is a project dedicated to making it easy for researchers to use data from the American Time Use Survey (ATUS). The ATUS is an ongoing time diary study that is funded by the U.S. Bureau of Labor Statistics and fielded by the U.S. Census Bureau. The goals of the ATUS-X project are:

- To collect and preserve ATUS data and documentation
- To harmonize the data from different years of data collection
- To make it easy to create data files containing the ATUS variables a user needs

***Time is our scarcest resource...use it wisely!***

**New Users**

[Create an ATUS-X Account](#)  
[Navigating the Site](#)

**ATUS-X News**

[2012 data](#)  
[Release Plans](#)  
[Metabolic Equivalent Values for Activities](#)

**MPC Data Projects**

[IPUMS-CPS and others](#)

Supported by:



Maryland Population  
Research Center



# IDHS

Integrated Demographic and Health Series

2011

HOME

OVERVIEW

PARTNERS

STAFF



## Documentation

- Surveys
- MEASURE DHS Links
- Sample Descriptions
- Source Documents

## Welcome to IDHS

The Demographic and Health Surveys (DHS) are the main source of information on health in the developing world. IDHS is designed to facilitate analysis of DHS data across time and space.

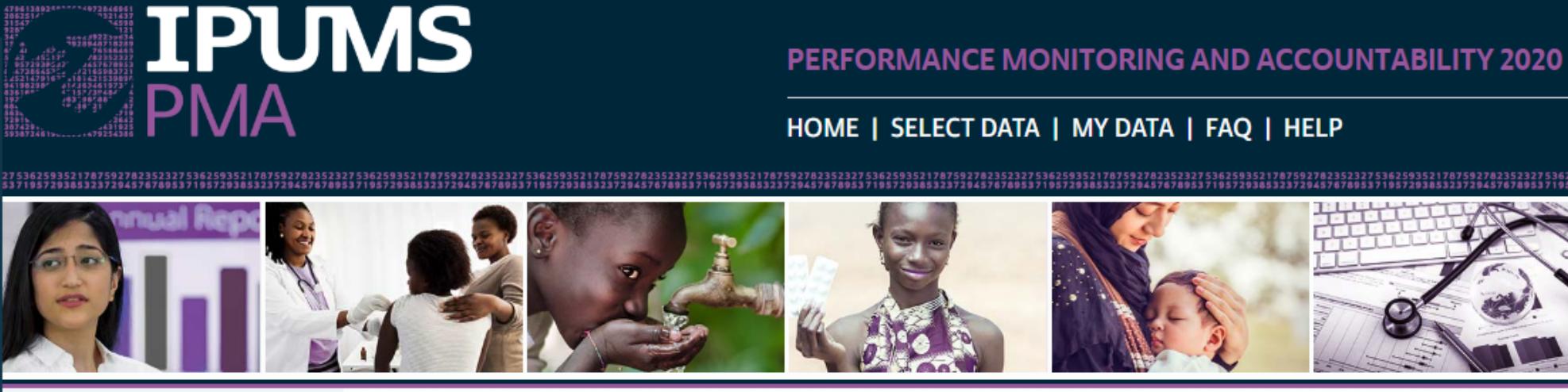
IDHS will:

- Focus initially on Africa and India
- Display variable availability across surveys
- Code data consistently across years and countries
- Provide variable-specific documentation
- Create customized multi-country and multi-year datasets
- Release data beginning in 2014



[Sign up](#) to receive updates about IDHS

2017



## DATA

[BROWSE AND SELECT DATA](#)

[MY DATA EXTRACTS](#)

[REGISTER TO USE IPUMS PMA](#)

## DOCUMENTATION

[ERRATA AND REVISIONS](#)

[SAMPLE DESCRIPTIONS](#)

[QUESTIONNAIRES](#)

[USER GUIDE](#)

## PROJECT

[ABOUT IPUMS PMA](#)

[PMA2020 HOMEPAGE](#)

## RESEARCH

## MONITORING KEY FAMILY-PLANNING INDICATORS

IPUMS-PMA harmonizes the Performance Monitoring and Accountability 2020 (PMA2020) data series. It provides an interactive web dissemination system for PMA2020 data with variable documentation on hundreds of harmonized variables on family planning, water and sanitation, and menstrual hygiene management. PMA2020 is fielded by the Bill & Melinda Gates Foundation and Johns Hopkins University using streamlined and high-frequency data collection in 11 FP2020 pledging countries.

**11 COUNTRIES · 96 SAMPLES · OVER 1800 VARIABLES · OVER 900 THOUSAND RECORDS**

[CREATE AN EXTRACT](#)

[Get Data](#)

[CREATE AN ACCOUNT](#)

[Register](#)

2020



[HOME](#) | [SELECT DATA](#) | [MY DATA](#) | [SUPPORT](#)



## IPUMS IHGIS

[ABOUT](#)

[SOURCE ORGANIZATIONS](#)

[REGISTER](#)

[DONATE TO IHGIS](#)

## DATA

[BROWSE AND SELECT DATA](#)

[DOWNLOAD OR REVISE MY DATA](#)

## SUPPLEMENTAL DATA

[GEOGRAPHY & GIS](#)

## DOCUMENTATION

[DATASET DESCRIPTIONS](#)

## SUPPORT

[FAQ](#)

[USER GUIDE](#)

## ANALYSIS-READY TABLES FROM INTERNATIONAL CENSUSES

The International Historical Geographic Information System (IHGIS) provides data tables from population and housing censuses as well as agricultural censuses from around the world, along with corresponding GIS boundary files. Data from diverse published documents are provided in a standardized, ready-to-use structure with thorough, consistently formatted metadata. [Read more](#).

**START HERE:**

[Get Data](#)



U.S. Census and American Community Survey microdata from 1850 to the present. [Learn More](#)

[VISIT SITE](#)



Current Population Survey microdata including basic monthly surveys and supplements from 1962 to the present. [Learn More](#)

[VISIT SITE](#)



World's largest collection of census microdata covering over 100 countries, contemporary and historical. [Learn More](#)

[VISIT SITE](#)

## IPUMS TURNS 30

Help us celebrate 30 years by sharing your IPUMS story

[SHARE STORY](#)



Health survey data for Africa and Asia, including harmonized data collections for [DHS](#) and [PMA](#). [Learn More](#)

[VISIT SITE](#)



Tabular U.S. Census data and GIS boundary files from 1790 to the present. [Learn More](#)

[VISIT SITE](#)



Tabular and GIS data from population, housing, and agricultural censuses around the world. [Learn More](#)

[VISIT SITE](#)

## 2022 IPUMS RESEARCH AWARDS

The winners of the 2022 IPUMS Research Awards have now been announced

[LEARN MORE](#)

## CALENDAR

[Association Of Public Data Users Conference](#)  
Jul 25, 2023 to Jul 26, 2023  
Arlington, VA



Historical and contemporary time



Historical and contemporary U.S.

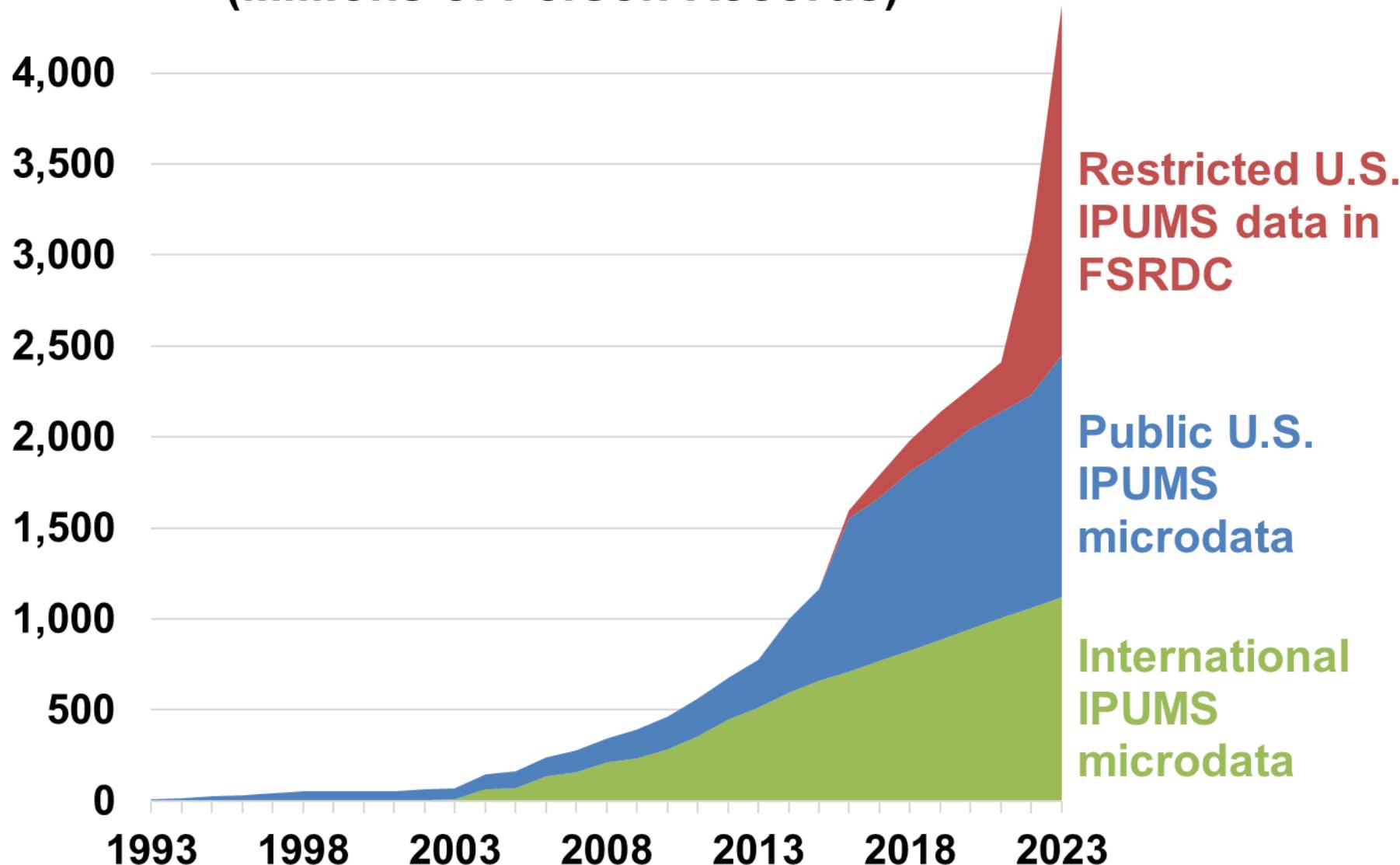


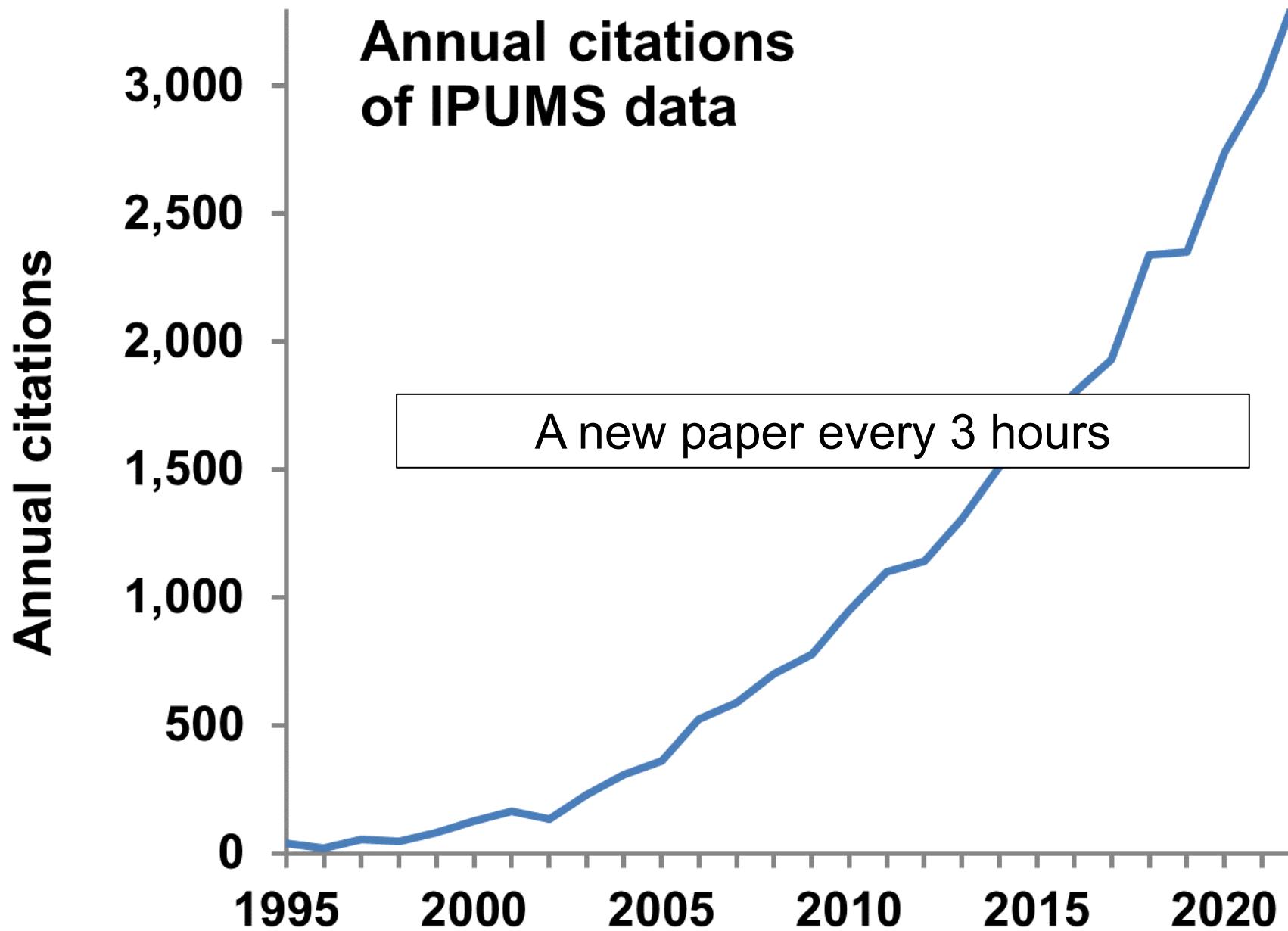
Survey data on the science and

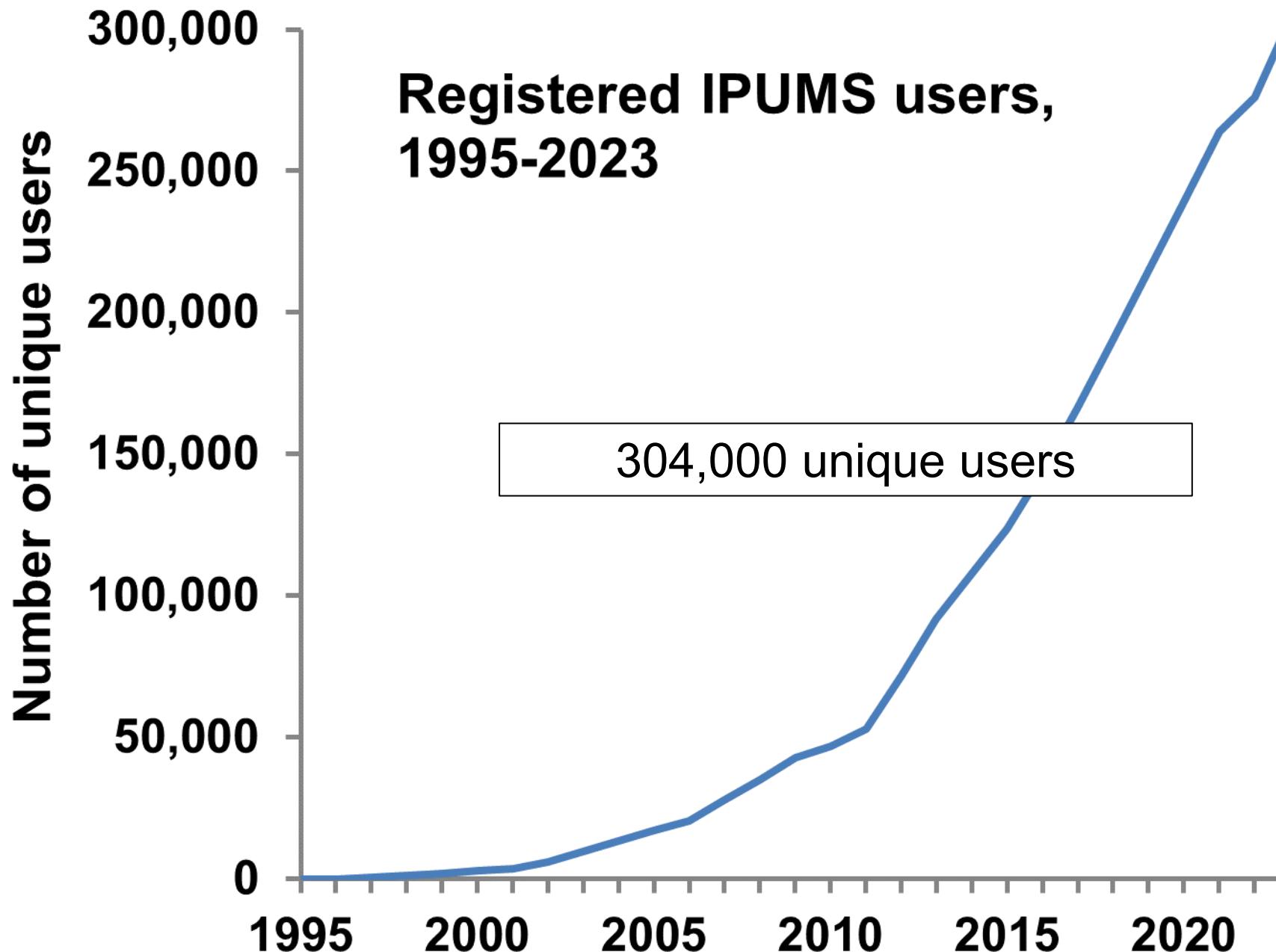
[2023 Data-Intensive Research Conference](#)

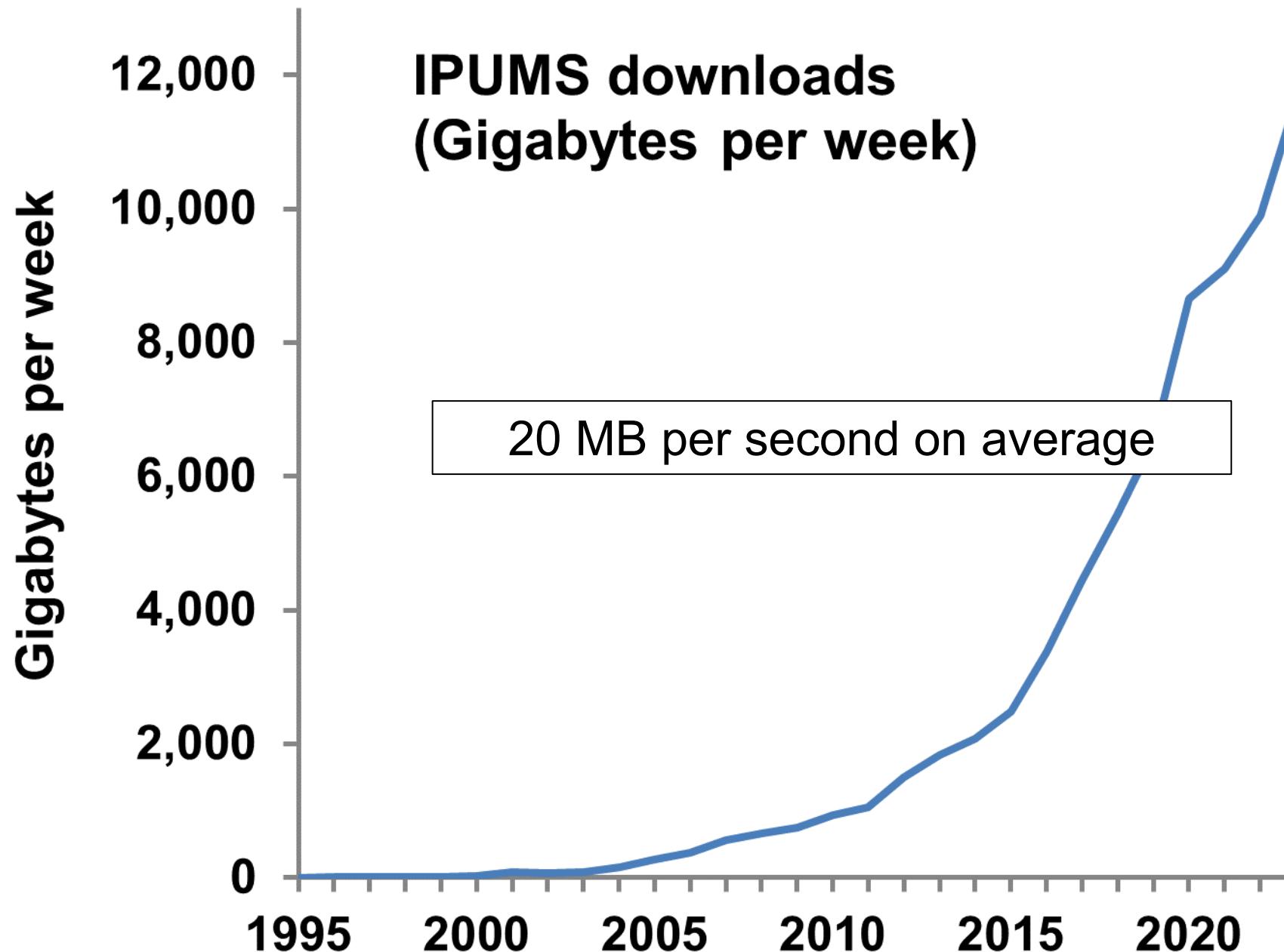
# Available IPUMS Microdata 1993-2023

(Millions of Person Records)



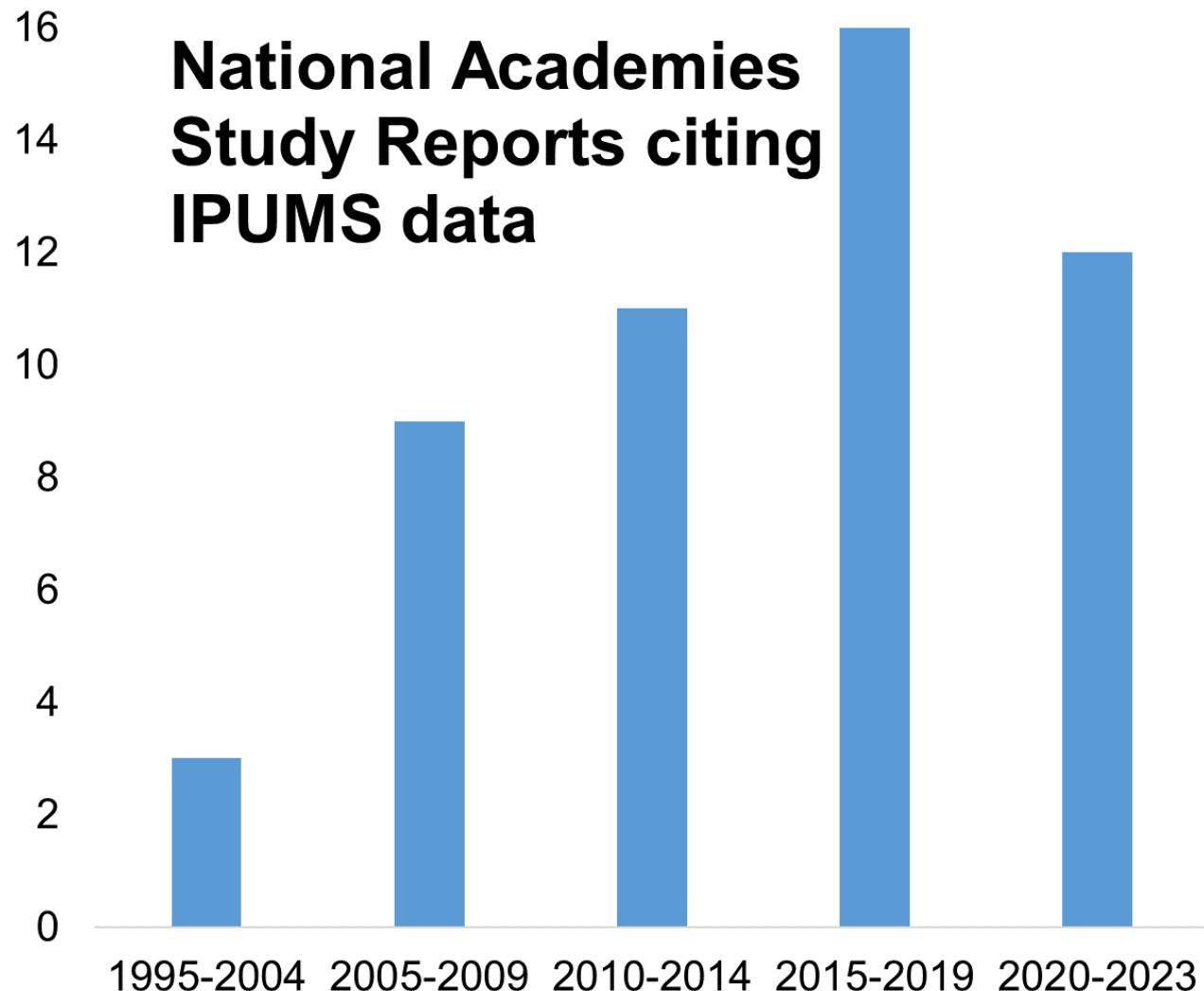






## Policy Applications

- International and U.S. agencies and policy organizations rely on IPUMS for core measures of demographic change
- 54 National Academies Consensus Study Reports use IPUMS, including 12 in the past 2.5 years

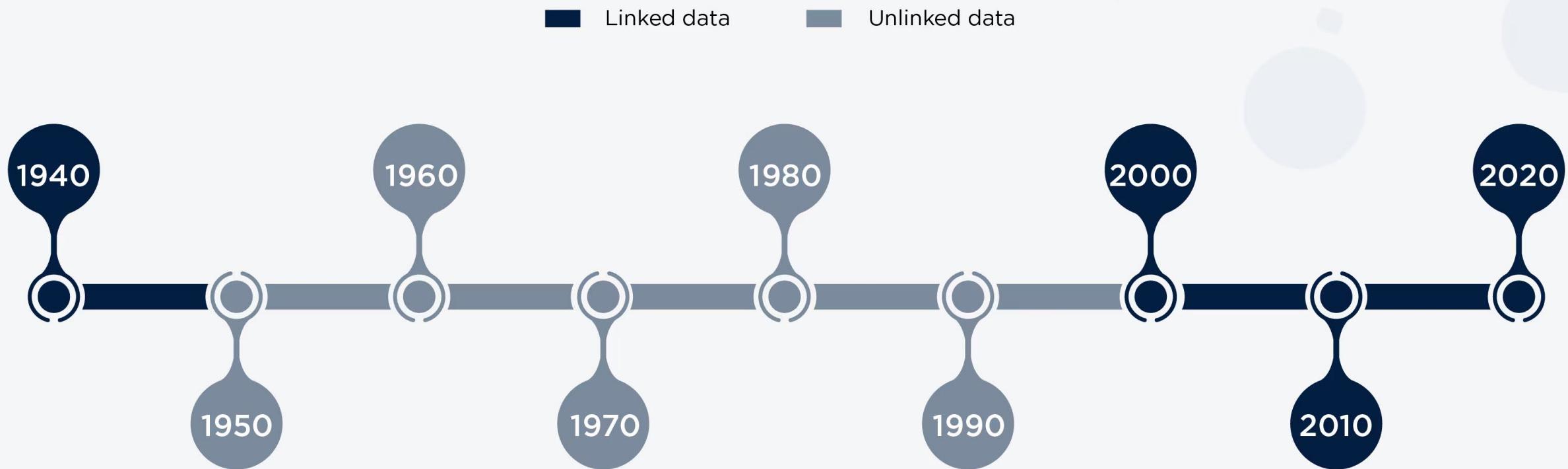




## Census Longitudinal Infrastructure Project

- Restricted data project, housed within the Federal Statistical Research Data Centers
- Link 1940 census to Social Security records, assigning an identity key to each person
- 1940 can then be linked to a wide range of later data that are already identified

# Linked Decennial Census Data



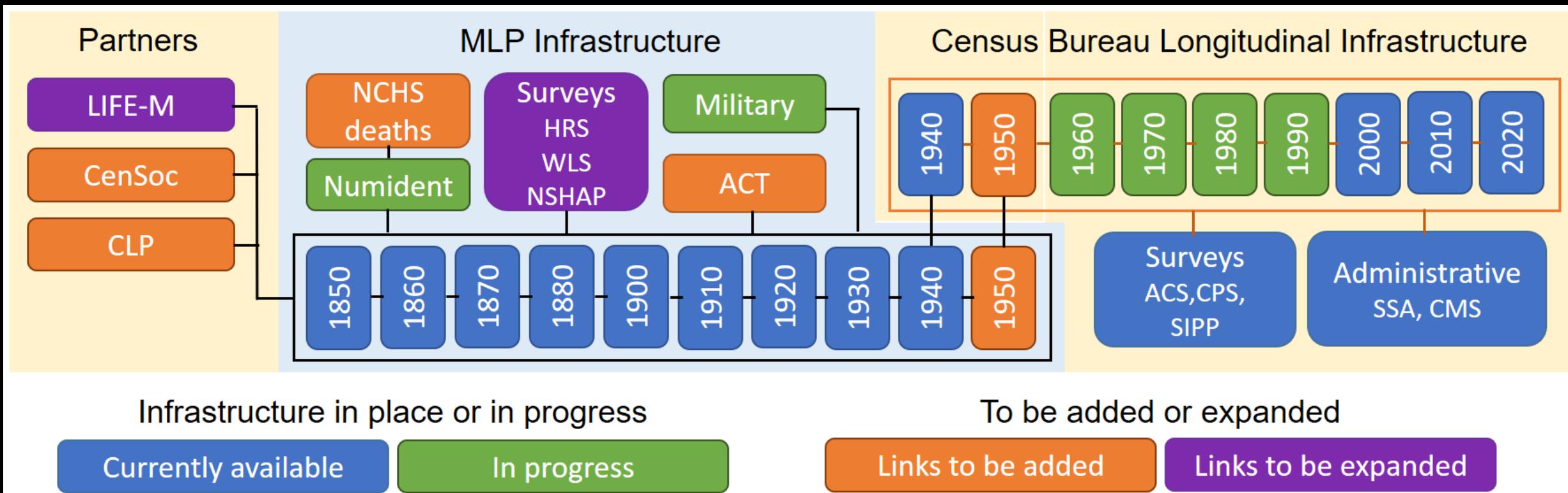




## Multigenerational Longitudinal Panel (MLP)

- Link censuses from 1850-1940 to each other and to administrative records
- First release 8/2020, new versions planned annually

# Multigenerational Longitudinal Panel (MLP)



# Why Big Microdata?

- You can't link samples
- Broad geographic coverage mitigates the problem of out-migration, which is a big problem in some local studies
- Can study small subgroups (e.g. twins, indigenous, residents of public housing in NYC)
- Can link full-count data to small datasets, such as labor union data or recent surveys of aging
- Full-count data allows contextual analysis to understand environmental impacts and community effects (e.g., Ferrie's lead exposure)

# The Future

- Build a general framework for linking all available records (e.g., vital records, health surveys, population registers, censuses, administrative records, business records)
- Develop compatible contextual data from government statistics, remote sensing, and other sources and make them easily interoperable with microdata

# Lessons from IPUMS

- To make diverse datasets interoperable we need data integration metadata
- To make data derived from a broad range of sources widely used, we need powerful data access tools that make it easy to merge data across time and space
- When feasible, we should connect historical data with recent data to maximize salience and fundability



Thank You.