

Mapping the Social Diversity of a Progressive-Era City from 300,000 Names

David Pettegrew
Messiah College

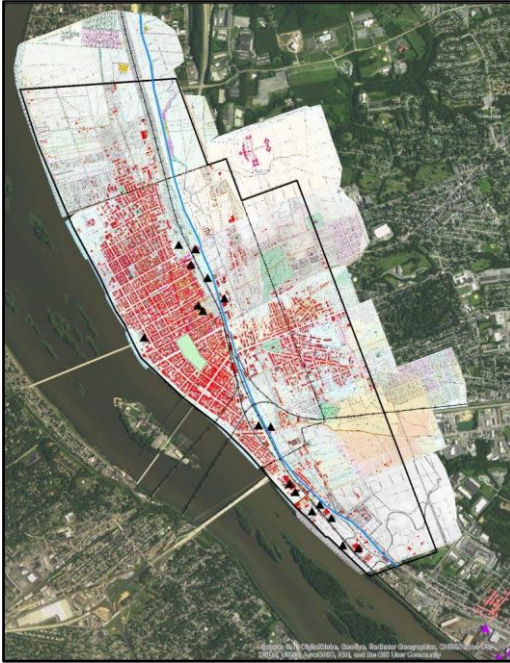
Learn more at
www.digitalharrisburg.com



The Digital Harrisburg Initiative is a series of public humanities projects devoted to digitizing the history and culture of Harrisburg, the state capitol of Pennsylvania.

It began in Spring 2014 as an effort to teach undergraduate students in history, digital media, geospatial technologies, and computer science about the value of digital data sets for both public humanities projects and undergraduate research.

Faculty and students in three history and GIS classes from Messiah College and Harrisburg University of Science and Technology worked together to create a database of 24,000 Harrisburgers from scanned images of the 1900 federal census and to link it to a contemporary digitized map of the city in GIS.

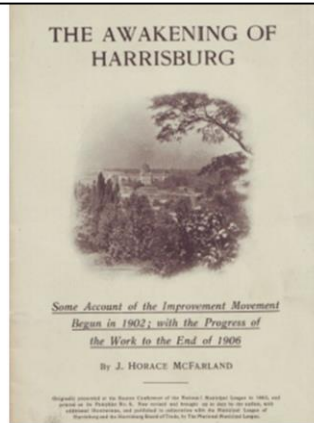


I. Background: City Social Project

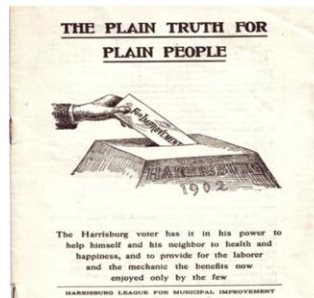
- 1901 Harrisburg Title Company Map over Aerial Photo
- 1900 Boundary (dark line) and 1860 boundary (dashed line)
- Light Green = Capitol Grounds
- Features: Pennsylvania Railway & Pennsylvania Canal
- Light red = 1901 Residences digitized from Map
- Steelton Residences and Factories to the South

Our main research project – the “City Social Project” – focused on making use of geocoded census data for understanding and visualizing the city of Harrisburg in the early 20th centuries. After a late industrial boom in the second half of the 19th century, Harrisburg was a growing city of 50,000 situated at a natural crossroads of trains, rivers, and canal system. While manufacturing had slowed, the city grew in the early decades of the 20th century as a capitol of state government.

[explain map]



City Beautiful



We focused our questions on Harrisburg's City Beautiful movement, which was among the earliest in the nation. A compelling lecture by the conservationist Mira Lloyd Dock in December 1900 incited the elite to organize the League for Civic Improvement, assemble a group of committed businessmen, and rally the population to vote for the bond issue in February 1902 that funded revitalization. In a short time, a filthy industrial center was remade into a modern, beautiful city with extensive green spaces, freshly paved roads, water filtration systems, and a glimmering state capitol.

One question, among others that we asked, was "who were the people who led and supported the urban progressive movements"?



A Digital History Experiment

To address such questions, we worked to marry two data sets—demographic data and digitized maps—via a common geocoded field

Working from scanned copies of the United States census tables available in Ancestry.com (which you can see [here](#)), history students in a Digital History course transferred information into spreadsheets in Microsoft Excel and then imported them into Access databases. We followed the transcriptions of federal data that already existed in Ancestry for some fields such as name, relation, and birthplace, but added other untranscribed fields such as occupation and industry, literacy, employment, property, and address, among others.

Students each took 2000 records. By the end of the term, twelve students had input 24,000 names, or about half the population of the city in 1900. Students did not generally like this process.

TWELFTH CENSUS OF THE UNITED STATES.

123A

State Pennsylvania
County Dauphin

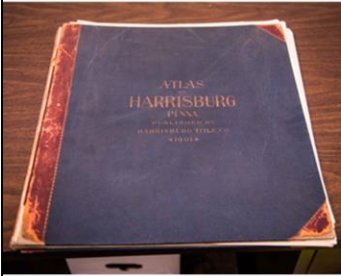
SCHEDULE No. 1.—POPULATION.

Superior's District No. 9 Sheet No. 1
Enumeration District No. 42Township or other division of county Harrisburg City Name of Institution, _____Name of incorporated city, town, or village, within the above-named division, _____ Ward of city, 1st, 2nd, 3rdEnumerated by me on the 1st day of June, 1900, Joseph Parson, Enumerator. 1200 20

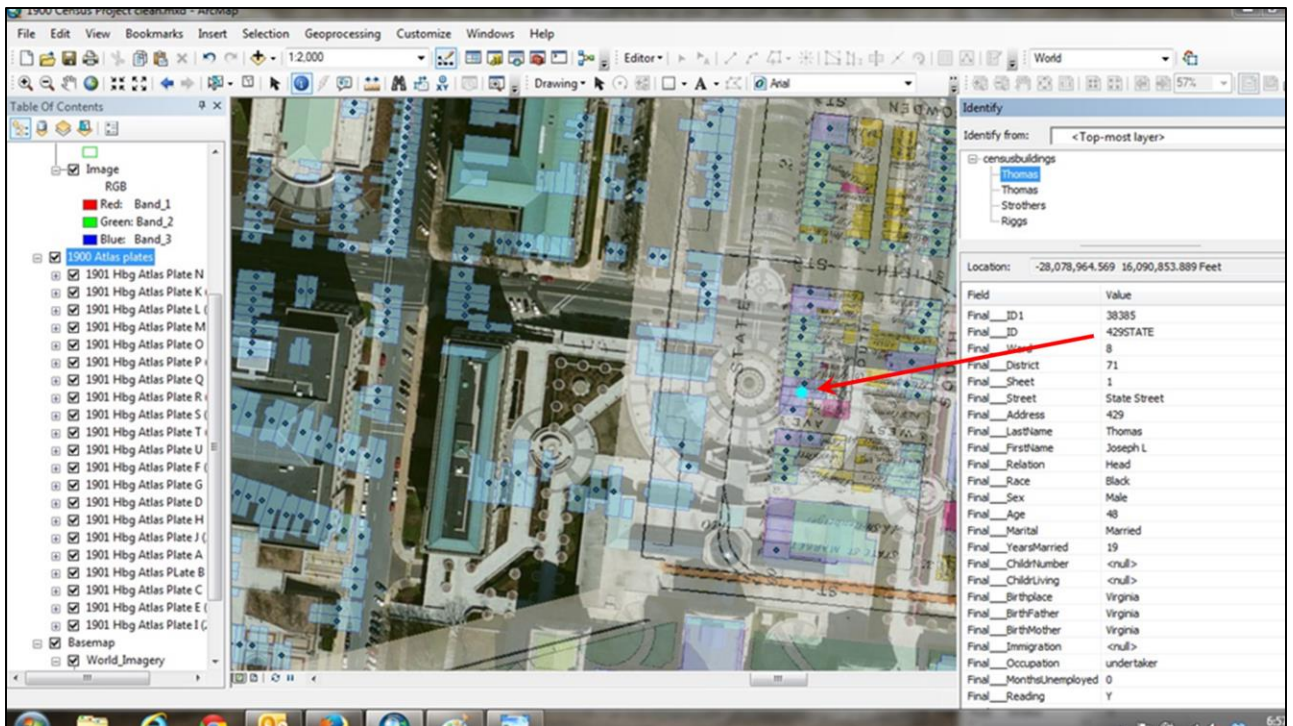
LOCATION.			NAME	RELATION	PERSONAL DESCRIPTION.										NATIVITY.			CITIZENSHIP.	OCCUPATION, TRADE, OR PROFESSION.			EDUCATION.			SCHEDULE IF DEAF.							
IN CITY.	Household.	Serial.			Color or race.	DATE OF BIRTH.		Age last birthday.	Whether deaf, dumb, insane, idiot, or blind.	Whether married.	Whether single.	Whether married.	Whether single.	Whether married.	Whether single.	Place of birth of this person.	Place of birth of father of this person.		Place of birth of mother of this person.	Years of attendance in school.	Years of attendance in college.	Years of attendance in university.	Occupation.	Years of school.	Years of school.	Years of school.	Years of school.	Years of school.	Years of school.			
						Month.	Year.																									
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										
of each person whose place of abode on June 1, 1906, was in the State of New York.			Enter exact date, give the given name and middle (if any), of each.			Enter the date of birth of each (if any).																										

CitySocial_1900_Final : Database (Access 2007 - 2010) - Microsoft Access																
Table Tools																
Fields Table																
File Home Create External Data Database Tools Add-Ins Fields Table																
Views Clipboard Sort & Filter																
Records																
Find																
Text Formatting																
1900Final																
ID1	ID	Ward	Precinct	LastName	FirstName	Relation	Race	Sex	Age	Marital	Yearsh	Childrn	Childri	Birthplace	BirthFather	BirthMother
1	1088SNINTH	1	1	Davis	William H	Head	White	Male	56	Married	30			Pennsylvania	Pennsylvania	Pennsylvania
2	1088SNINTH	1	1	Davis	Mary	Wife	White	Female	66	Married	30	2		Pennsylvania	Pennsylvania	Pennsylvania
3	1106SNINTH	1	1	Spigelmyer	James	Head	White	Male	24	Married	5			Pennsylvania	Pennsylvania	Pennsylvania
4	1106SNINTH	1	1	Spigelmyer	Mazie	Wife	White	Female	21	Married	5	1		Pennsylvania	Pennsylvania	Pennsylvania
5	1106SNINTH	1	1	Spigelmyer	Bessie H	Daughter	White	Female	1	Single				Pennsylvania	Pennsylvania	Pennsylvania
6	1106SNINTH	1	1	Ganoe	John E	Boarder	White	Male	20	Single				Pennsylvania	Pennsylvania	Pennsylvania
7	1108SNINTH	1	1	Shehee	Daniel	Head	White	Male	63	Married	44			Ireland	Ireland	Ireland
8	1108SNINTH	1	1	Shehee	Sarah	Wife	White	Female	61	Married	44	10	3	Pennsylvania	Ireland	England
9	1108SNINTH	1	1	Shehee	Regina	Granddaugh	White	Female	6	Single				Pennsylvania	Pennsylvania	Pennsylvania
10	1110SNINTH	1	1	Neill	Elen	Head	White	Female	45	Widowed		5	5	Pennsylvania	Pennsylvania	Pennsylvania
11	1110SNINTH	1	1	Neill	Herbert	Son	White	Male	18	Single				Pennsylvania	Pennsylvania	Pennsylvania
12	1110SNINTH	1	1	Neill	Elva	Daughter	White	Female	16	Single				Pennsylvania	Pennsylvania	Pennsylvania
13	1110SNINTH	1	1	Neill	Hester	Daughter	White	Female	14	Single				Pennsylvania	Pennsylvania	Pennsylvania
14	1110SNINTH	1	1	Neill	Isabella	Daughter	White	Female	10	Single				Pennsylvania	Pennsylvania	Pennsylvania
15	1110SNINTH	1	1	Neill	Helen	Daughter	White	Female	8	Single				Pennsylvania	Pennsylvania	Pennsylvania
16	1112SNINTH	1	1	Roath	Clyde V	Head	White	Male	21	Married	1			Pennsylvania	Pennsylvania	Pennsylvania
17	1112SNINTH	1	1	Roath	Lucy	Wife	White	Female	18	Married	1	1	0	Pennsylvania	Pennsylvania	Pennsylvania
18	1112SNINTH	1	1	Macentee	Louisa	Mother-in-L	White	Female	40	Widowed		1	1	Pennsylvania	Pennsylvania	Pennsylvania
19	1124SNINTH	1	1	Kaiser	Sarah E	Head	White	Female	64	Widowed		3	3	Pennsylvania	Pennsylvania	Pennsylvania
20	1124SNINTH	1	1	Kaiser	Misouri	Daughter	White	Female	37	Single				Pennsylvania	Pennsylvania	Pennsylvania
21	1124SNINTH	1	1	Neary	Thomas	Boarder	White	Male	37	Single				Pennsylvania	Ireland	Ireland
22	1126SNINTH	1	1	Hager	William	Head	White	Male	34	Married	9			Pennsylvania	Germany	Pennsylvania
23	1126SNINTH	1	1	Hager	Forance	Wife	White	Female	33	Married	9	0	0	Pennsylvania	Pennsylvania	Pennsylvania
24	1126SNINTH	1	1	Laudermilch	Emma	Sister	White	Female	26	Married	2			Pennsylvania	Germany	Pennsylvania
25	1130SNINTH	1	1	Shehee	George A	Head	White	Male	39	Married	17			Pennsylvania	Ireland	Pennsylvania

Ultimately we produced spreadsheets and then a database of the citizens of the Harrisburg in 1900



Our second dataset included GIS files of a contemporary atlas of the city in 1901. Beginning in 2014 and continuing in subsequent years, we digitized every building on the map



We gave each polygon a unique ID which corresponded to the census data

[Explain slide]

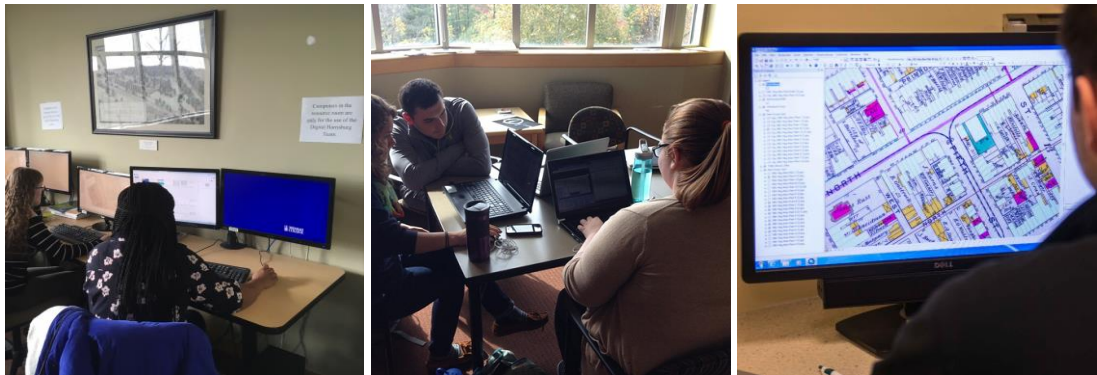
Professor Sarvis will speak about the challenges of the GIS data so I'll focus my remarks here on the demographic side



A Digital History Experiment

Working from scanned copies of the United States census records in Ancestry.com (which you can see here), history students in a Digital History course transferred information into spreadsheets in Microsoft Excel and then imported them into Access databases. We followed the transcriptions of federal data that already existed in Ancestry for some fields such as name, relation, and birthplace, but added other untranscribed fields such as occupation and industry, literacy, employment, property, and address, among others.

Students each took 2000 records. By the end of the term, twelve students had input 24,000 names, or about half the population of the city in 1900. Students did not generally like this process.



Digital Harrisburg Working Group

Work continued through work-study employment and internships, courses in history and technology, and a working group of faculty and students in the humanities, computer science, and geospatial technologies at both institutions.

City Social Project: Current State of Data

- Harrisburg
 - 1880 – Currently developing from IPUMS data
 - 1900 – Completed, refining
 - 1910 – Completed, refining
 - 1920 – Completed, refining
 - 1930 – Completed, refining
- Steelton, 1900-1930, completed input, but refining
- Lancaster and Philadelphia, Greek Population 1900-1930

The group has input 400,000 names and associated information from the federal censuses of Harrisburg between 1900 and 1930, digitized two contemporary maps of the city (1901 and 1929), added property and occupation value and other historical information (e.g., church membership rolls), refined demographic and geospatial datasets, and linked data together through a unique property number.

One of the big challenges is that the datasets are much too big, with annual populations by 1930 of over 70,000. They need significant data refinement and most of our work is going toward that end.

If we were going to do this over again, we'd focus on a much smaller sample of data. For example, I've been working with a colleague from Franklin and Marshall to input the Greek populations which are only a couple of thousand people.

Harrisburg's Demographic Data: Example of 1900

- **Census Variables:**

- **Metadata:** Census Year, Ward, Precinct, District, Sheet Enumeration Date, Enumerator
- **Location:** Street, Address
- **Identifiers:** Last Name, First Name, Sex, Age
- **Family:** Relation, Marital Status, Children, Children Living
- **Race, Immigration, Birthplace:** Race, Birthplace, Birthplace Father, Birthplace Mother, Immigration Year
- **Employment:** Occupation, Months Unemployed
- **Literacy:** Reading, Writing, English

- **Historic Maps:** Latitude and Longitude, Building Material, Property Owner
- **County Tax Data:** Occupation Tax, Property Value, Property Owner, Alternate Names
- **City Directory:** Alternate Names and Addresses, Occupations
- **Membership Rolls:**
 - Churches
 - Civic Club
 - Municipal League of Civic Improvement
 - Board of Trade

Faculty are now working with their students to incorporate other large data sets such as additional church membership rolls, names and occupations from city directories, taxes and property values, and historical documents, and to tell stories about individual houses over the period of a generation.

Problems with Census Data

- Handwriting
- Misspellings
- Addresses
- Unstandardized Fields
- Changing fields between census years
- Misinformation

[illegible]

The American census of course is hardly a straightforward record of the population. At best, the enumeration was an authoritative and official snapshot of the people living at the city at a single moment in time.

But it was an imperfect snapshot. Past census schedules suffered the same problems of categorization, incompleteness, loss, and bias as recent censuses. Margo Anderson's *The American Census: A Social History* (1988, second edition 2015), for example, has demonstrated how much national politics and the questions of slavery and race determined the kinds of information collected from human subjects and the reliability of that information on a macro level. E.g., Swierenga 1990; Steckel 1991; King and Magnuson 1995; Hodes 2003; Hacker 2013.)

Our own analysis of data from Harrisburg has shown that local enumerators who carried out the census work commonly misspelled names [Mira S. Dock], recorded incorrect information, did not record required information, and imposed their own categories. A careful study of the racial categories in the 1900 census, for example, has revealed racial categories (“Colored”) that were never part of the guidelines for enumeration. Between the 1900 and 1910 censuses, we documented a dramatic spike in the count of people categorized as “Mulatto,” but this says less about the

changing color or racial pedigree of inhabitants than new ways of categorizing population.

And there is always the problem of standardization and categorization. Rather than see this as a weakness, our students have come to appreciate how these datasets we are building contribute in different ways to a better understanding of human constructions of U.S. demographic data.

Problems with Census Data

Enumerator	Precinct	Enumeration District	Race	Age	Marital	Birthplace	Occupation	Industry	Months Unemployed	Property
Isiah Parson	11	42	Black	38	Married	Maryland	Laborer Iron Mill	Iron		R
George G. Goring	12	43	White	27	Single	Pennsylvania	Grocer	Groceries	0	
Raymond M. Kraber	13	44	White	22	Single	Pennsylvania	Craneman		2	
Arthur F. Fry	21	45	White	30	Married	Pennsylvania	Fireman			
Harvey R. Copeland	22	46	White	39	Married	Pennsylvania	Engine Hostler - RR	Railroad	0	R
Martin L. Heisler	22	46	White	53	Married	Pennsylvania	Insurance and Rents	Insurance	0	R
Miles D. Fry	31	48	White	28	Married	Pennsylvania	Cigar Dealer	Cigars	0	R
J. N. Reese	32	49	White	24	Single	Pennsylvania	Musician		0	
Harry B. Orr	42	51	White	29	Married	Pennsylvania	Stenographer		0	
William L. Windsor	42	52	White	35	Married	Pennsylvania	Conductor - streetcar	Railroad	0	R
LeRue L. Palmer	51	53	White	47	Married	Pennsylvania	milk retailer		0	R
Harry G. Seitz	53	55	White	29	Single	Pennsylvania	machinist			
Harvey E. Krupp	53	55	White	29	Single	Pennsylvania	atty-at-law	Attorney		
Ira W. Kramer	54	56	White	39	Married	Pennsylvania	grocer	Groceries	0	O
Jacob C. Bunkholder	54	56	White	44	Married	Pennsylvania	R.R. ?	Railroad	0	R
John D. Grissinger	62	58	White	36	Married	Pennsylvania	Boil Maker		3	R
H. C. Jenkins	63	59	White	53	Married	New Jersey	clerk		6	R
William E. Rowe	64	60	White	30	Married	Pennsylvania	compositor			
William H. Myers	65	61	White	25	Married	Pennsylvania	solicitor			
Harry G. Kind	66	62	White	25	Single	Pennsylvania	steel worker	Steel		
J. Harper Lantz	67	63	White	24	Single	Pennsylvania	grocer	Groceries		
Harry F. Milliken	72	65	White	24	Single	Pennsylvania	labor	Day Labor		
Harry W. Harman	74	67	White	30	Single	Pennsylvania	barber	Barber		
Charles H. McCord	75	68	White	39	Married	Pennsylvania	conductor rr	Railroad		
J. Edward Jenkins	76	69	Black	43	Married	Virginia	sexton			
George Galbreath	81	70	Black	51	Single	Pennsylvania	estate agent			
Joseph L. Thomas	82	71	Black	48	Married	Virginia	undertaker			
Harry M. Barnes	83	72	White	29	Single	Pennsylvania	Clerk in Frt. Office			
William S. Tunis	84	73	White	31	Single	Pennsylvania	Stationary Merchant			
LaTrole M. Barnitz	91	74	White	25	Single	Pennsylvania	None	None		
John M. Steele	92	75	White	55	Married	Pennsylvania	gen agt			
Harry W. Booser	93	76	White	25	Married	Pennsylvania	Commercial Loan Service			R
Edwin L. Fry	94	77	White	34	Married	Pennsylvania	Hester (?)		3	R
George M. Keever	95	78	White	38	Married	Pennsylvania	machinist		0	R
James H. Miller	101	78	White	45	Married	Pennsylvania	mechanic		6	R

The Human
Factor:
Census
Enumerators

It's important to remember the human factor involved

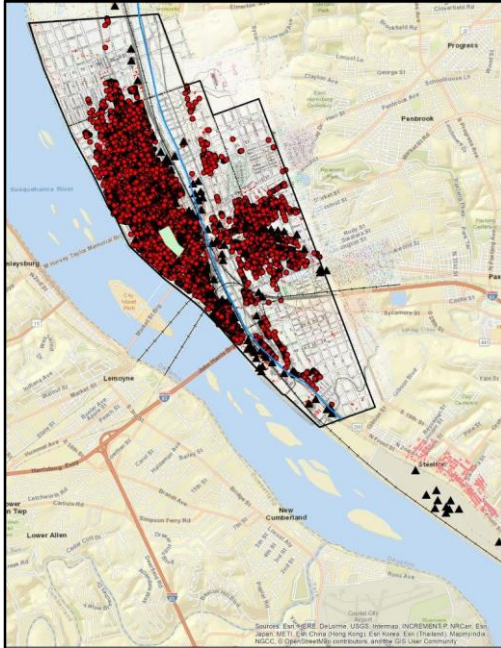
Our analysis of the 1900 data from Harrisburg has also revealed the different educational and social backgrounds of the census enumerators themselves, who were, in some cases, unemployed inhabitants of the wards and enumeration districts they were recording and in other cases prominent and well-educated outsiders with no connection to Harrisburg.

III. Mapping Harrisburg's Urban Population

Incredible potential for introducing students to the people of the past

- students can ask about the ethnic diversity of the city in the early 20th century
- what percentage of the Russian-born population spoke English, Yiddish, or Hebrew
- how many women had lost children at some point in their lives
- how many Irish worked at the iron mill, and how female literacy rates compared with male.

When linked to GIS, students can ask about occupations: where do all the baseball players or brickmakers live – and how do their residences correspond to the brick factory or the baseball field



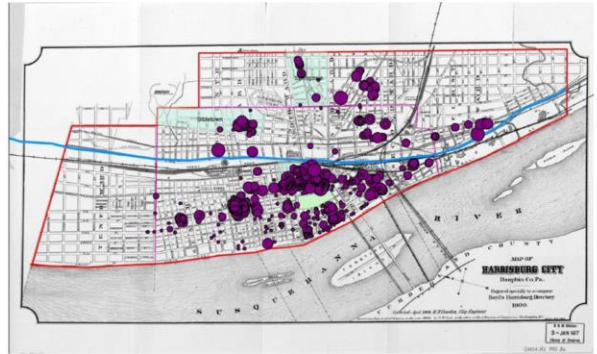
Harrisburg 1900

- Light red = 1901 Residences digitized from Map
- Purple Triangles = Major Employers in 1900: Factories, Warehouses, Utilities, and Major Companies
- Red Dots = Census Population

The most obvious thing to notice when looking at the geocoded population for Harrisburg in 1900 is the concentrations of people.

Unlike a flat map of the city that simply shows area within the city limits, or a list of population by wards, geocoded census data allows us to visualize the beating heart of the population Harrisburg (in the capitol park west of the tracks) and to a lesser extent in north and south of Market Street on the eastern side of the canal.

Harrisburg's northern sector was undeveloped, and the southern districts had far more manufacturing than inhabitants.



African-American Neighborhoods

Plotting individual variables opens our eyes to the broad patterns of early 20th century Harrisburg.

Consider race.

The African American population was the only appreciable non-White group in Harrisburg in 1900 (8% of the population), and its distribution across the city was more complex than some scholars have suggested. Journalists and historians (Paul Beers) had suggested there were five principal black communities in the Harrisburg area in the early twentieth century including Sibletown, Springdale, the Old Eighth Ward, a neighborhood in Steelton, and Edgemont. But this does not accurately describe the situation in 1900. The Old Eighth Ward and Sibletown certainly had significant black communities, but Edgemont had not yet developed and Springdale only had a dozen black residences. Moreover, Beers missed the substantial black neighborhoods in Verbetketown and significant concentrations scattered elsewhere across the city.



The black communities of early twentieth century Harrisburg, moreover, were not an undifferentiated group, and the federal census records and GIS allow us to think about and visualize the population according to factors such as birthplace, the rental or ownership of property, and occupation and industry. Tabulation by birthplace, for example, shows that the adult black population (age 18 and older) came primarily from three states—Pennsylvania (37%), Virginia (38%), and Maryland (18%)—which collectively comprised 92% of the entire adult population.

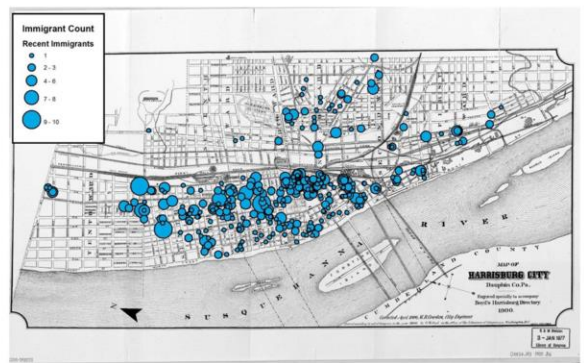
Visualizing these patterns spatially show that birthplace was not a very important factor in influencing the settlement of African Americans in the city in 1900. The adult population of blacks born in Pennsylvania, for instance, shared the same residential districts and often the same households of the city as black immigrants from Virginia and Maryland.

Nonetheless, a closer look—the finer-grained view that we have been advancing in this presentation—reveals real demographic differences from block to block, district to district. The black Pennsylvanians seem to have been slightly less common than Marylanders and Virginians in the Shipoke and manufacturing districts of the first ward. The Virginians appear to have been more numerous in the newer eastern precincts of the second, eighth, and ninth wards.



African-American Property Owners and Domestic Workers

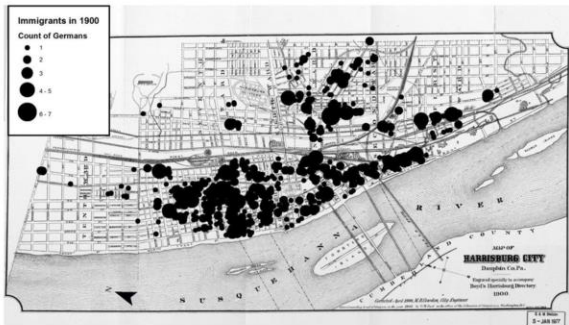
The small number of black property owners (13% of black heads of households) were concentrated in the Old Eighth Ward, especially in the eastern half, and were virtually absent in the area of Sibletown. African Americans engaged in the iron mills focused entirely in the southern part of the city, while the few employed by the railroad lived especially in Sibletown, as well as the second and sixth precincts of the Sixth Ward. Black domestic servants lived not only in black communities but also lived in white households in the districts closest to the riverfront. And African Americans lived alongside other minority groups, such as those born in Russia, in spatially differentiated patterns.



Immigrants in 1900: all immigrants (left) vs. recent immigrants since 1890 (right)

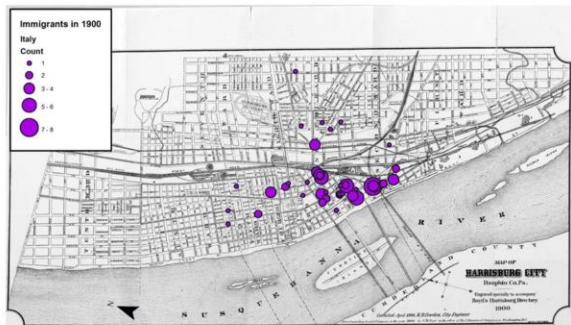
Or consider birthplace and immigration. Most of the 5% of Harrisburg's foreign-born population came from Germany (39%), but Irish (16%) and Russians (14%) were as common as New Yorkers and more numerous than New Jerseyans and Delawareans.

Foreign birth was itself not a consistent determinant of a person's place of settlement within the city. Distribution maps of the foreign-born population shows a continuous distribution of immigrants from one end of the city to another. Nor did the year of one's arrival exert much influence on one's integration within the city. A map of the population of recent immigrants shows that while they were more common east of the state capitol in the Old Eighth and Ninth Wards and north of the capitol along the canal and train line, recent immigrants could be found in most districts of the city.



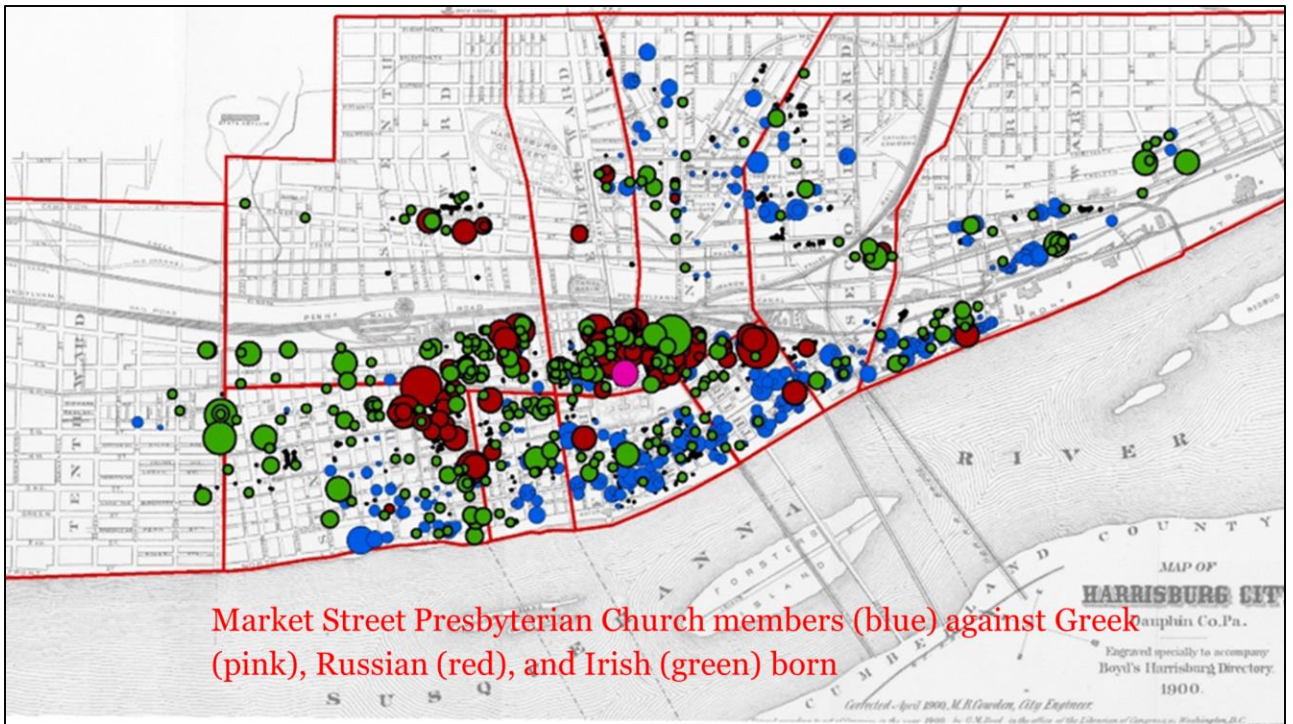
Immigrants from Germany

It was, rather, the specific country of origin that had the most influence on where immigrants settled in the city. The population from Germany was the most widely scattered across the city and integrated within different neighborhoods, and even those who had immigrated to the U.S. more recently were widely distributed across the city without many discernible concentrations



New Immigrants in 1900

The extensive settlement pattern of these groups contrasts markedly with the populations from Russia and Italy, who had arrived mainly since the 1880s. Immigrants from Russia, who seem to have been a predominantly Jewish population, settled in two main areas: in the southeast section of the Sixth Ward and the southwestern section of the Seventh Ward, and in the western areas of the Eighth and Ninth Wards. Italians, who comprised much of the working population in Steelton south of Harrisburg, clustered east and south of the state capitol building with the densest concentrations in the Second, Third, and Ninth wards.



One can stack other variables, of course, to highlight more subtle differences among the population: property value and occupation, or, as this map shows, religion. Here, Presbyterians mainly concentrated along the wealthier streets near the river —unlike the Irish, Russian, and Greek born populations living closer to the railroad tracks.



Populations over Time: Greeks

- Black = 1900
- Blue = 1910
- Yellow = 1920
- Red = 1930

Harrisburg				
Year	Population	Greeks	% Pop.	Residences
1900	50,167	3	0.01%	1
1910	64,107	55	0.09%	21
1920	76,423	98	0.13%	53
1930	80,601	226	0.28%	92

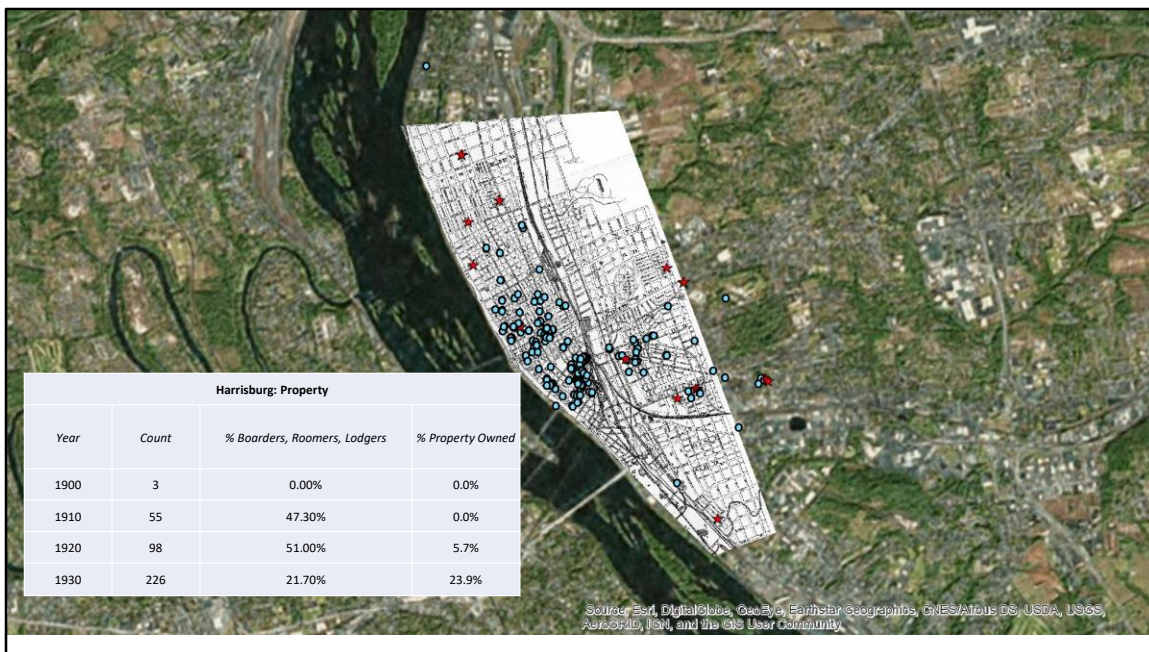
And one can add the dimension of time to see how immigrant populations gradually find a place in the city.

Professor Sarvis will highlight this in his presentation, so I'll just give a brief teaser: the Greeks.

Harrisburg's Greek population started off with 3 brothers in 1900, increased to 55 in 1910 and thereafter doubled in population.

Compared to Lancaster, another small city in the region, Harrisburg seems to have been less of a destination for Greek immigrants. Those who came to Harrisburg were less likely to be married, less likely to have children, less likely to own property, and more likely to be single boarders than their counterparts in Lancaster.

Yet, when we look at their distribution over time, we see that the population gradually becomes more integrated in the fabric of the city.



Interestingly, though, as Greeks come to own property, they are distributed across the city and do not form a common core such as a “Greek town” that one finds in large cities like Chicago, Philadelphia, or Lowell.

IV. Making Historical Arguments: City Beautiful Movement

William H. Wilson (*The City Beautiful Movement*)

- A successful elite campaign:

“Possibly there is an ethno-cultural or historical connection. Perhaps the vote reflects some partisanship...The facts remain that there was no consistent relationship between economic status and the vote, that the total vote was decisive, and that the measure carried every ward but one.”

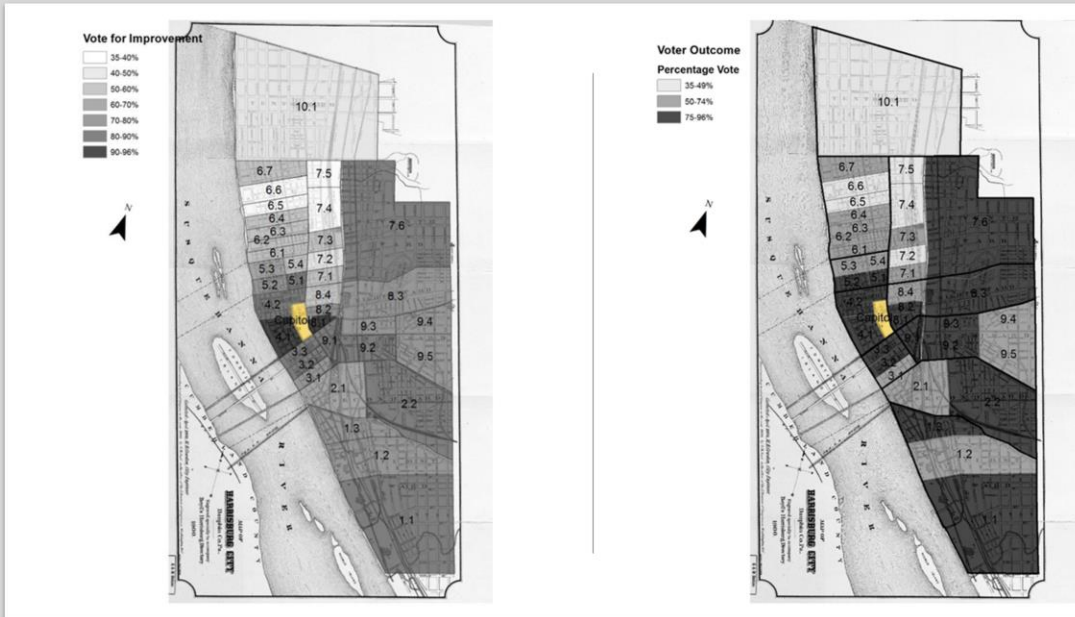


VOTE ON IMPROVEMENTS.	
	For. Against.
First ward—First gens.,	210 50
Second gens.,	210 97
Third gens.,	155 40
Second ward—First gens.,	276 139
Second gens.,	261 71
Third ward—First gens.,	306 40
Second gens.,	170 41
Fourth ward—First gens.,	155 24
Second gens.,	406 87
Fifth ward—First gens.,	196 47
Second gens.,	172 55
Third gens.,	107 01
Fourth gens.,	158 115
Sixth ward—First gens.,	206 181
Second gens.,	187 125
Third gens.,	170 120
Fourth gens.,	168 102
Fifth gens.,	110 112
Sixth gens.,	111 111
Seventh ward—First gens.,	111 111
Second gens.,	111 111
Third gens.,	96 11
Fourth gens.,	6 151
Fifth gens.,	91 142
Sixth gens.,	107 51
Eighth ward—First gens.,	201 11
Second gens.,	111 11
Third gens.,	201 99
Fourth gens.,	101 117
Ninth ward—First gens.,	210 19
Second gens.,	200 27
Third gens.,	202 42
Fourth gens.,	207 94
Fifth gens.,	208 100
Tenth ward	216 120
Totals	6205 2118
Majority for improvements, 4205.	

Finally, let me close by returning to the City Beautiful Movement.

The major historical treatment of Harrisburg’s urban reform program—William Wilson’s pioneering study of the City Beautiful—described the movement as spawned and driven by white Protestant businessmen. Yet, the fact that Mira Dock, a woman, inaugurated the campaign for civic improvement, and a multitude of activist women, African American educators and pastors, and Jewish notables rallied the citizenry, recommended a closer look.

We saw an opportunity to look again at the data and explain why certain parts of the city voted in favor of the bond issue in 1902 while others did not. Looking at the tabular results of the election, for example, doesn’t do justice to the spatial and demographic element of support for improvement.



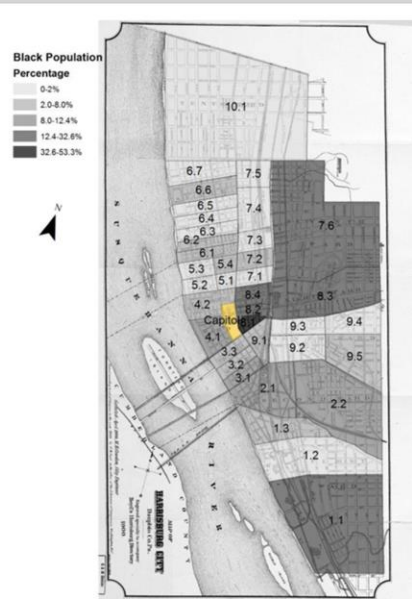
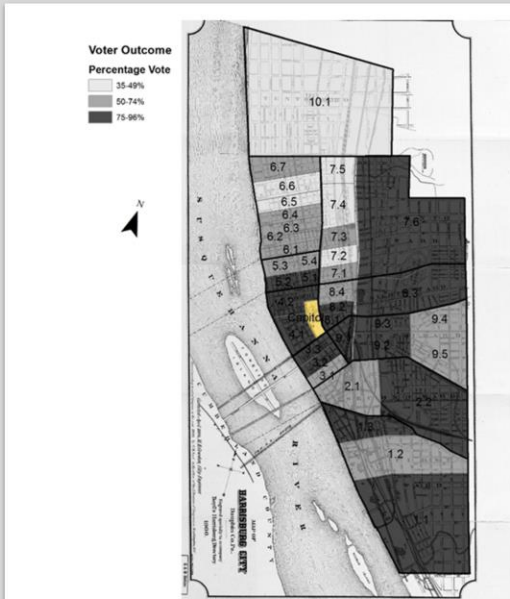
When plotted spatially against the precincts, it's clear there was a strong spatial component to the vote.

The image on the left, for example, shows that the strongest supporters came from the area right near the capitol, the heart of the city.

The image on the right, which uses fewer percentile groupings, shows that those who were most opposed the bond issue lived in the newer areas of the city to the north; those most supportive came from the area of the Capitol and the newer blocks of the city on the eastern side of the railroad tracks.



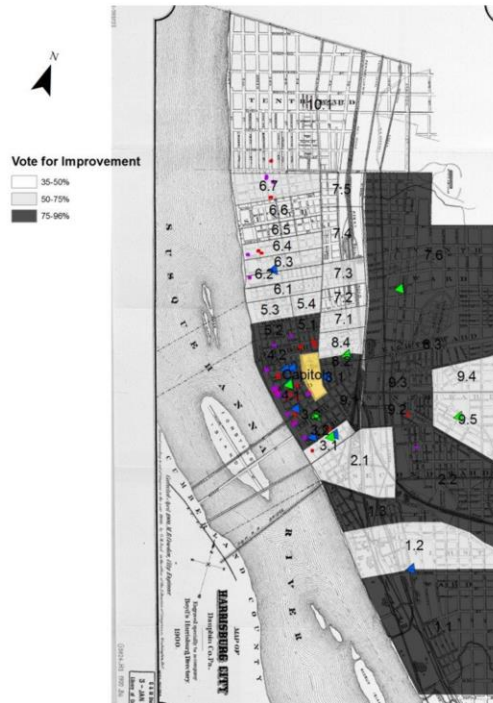
There are certainly demographic factors that would be worth exploring more. One of our history students who compared different census variables noted, for example, that the most homogenously white ward of the city voted most strongly against the bond issue.



That the precincts with the greatest concentrations of African Americans voted most in favor of the bond issue...

Campaign for Improvement

- Purple = Residences of Municipal League Members
- Green = Meeting Place in Campaign for Improvement
- Blue = Religious Community involved in Campaign
- Red = Residences of Civic Reformers



It also invites us to think about the campaign for improvement itself.

The campaigners, after all, included local white businessmen, the elite women of the Civic Club, and rabbis, pastors, and African American educators. The campaign for improvement occurred in civic buildings, churches, synagogues, and market places.

When our students generated lists of sites in the campaign, they noted a strong correlation between the residences of campaigners and campaign sites, and the voting record of the population. The local brokers for urban improvement in the early twentieth century seem to have brought over their populations.



- Data Refinement
- History Harvests
- Public Engagement
- Dissemination of Data
 - 1900: December 2018
 - 1880 and 1910: December 2019
 - 1920: December 2020
 - 1930: December 2021
- An Invitation to Analyze the Data



DISCOVER THE CITY OF HARRISBURG IN 1900

Explore 10,000 residential, business, civic, and religious buildings
 Meet the inhabitants of your house 120 years ago
 Locate ancestors, family, and citizens
 Play with an interactive map
www.digitalharrisburg.com/harrisburg1900

COLLABORATE WITH US

Tell us the story of your house and home
 Share the memory of your family
 Send historical photos

digitalharrisburg@messiah.edu

Dr. David Pettegrew
 Messiah College
 One College Ave, Suite 3051
 Mechanicsburg, PA, 17055

The Digital Harrisburg Initiative is a public educational resource for learning about Harrisburg and its surrounding region produced through collaboration between the community and the faculty and students at Messiah College and Harrisburg University of Science and Technology.