Paper Maps & Rogue TIGERs: Using Government Documents to Digitize 1980 Census Blocks for IPUMS NHGIS – Transcript of audio

Please stand by for realtime captions.

> Good afternoon and welcome. My name is Donald Sensabaugh. I am the library and that the government publishing officer . I will be the emcee for the room tonight. Library and David Isaak will provide technical assistance. Today's webinars call Paper Maps and rogue TIGERs. Are three speakers are from the University of Minnesota. Kate Knowles is Data Analyst, Institute for Social Research and Data Innovation, University of Minnesota. Jonathan Schroeder is a Research Scientist, Institute for Social Research and Data Innovation, University of Minnesota and Jenny McBurney is the Government Publications Librarian & Regional Depository Coordinator, University Libraries, University of Minnesota . For the Q&A during this talk, please add your questions into the chat and send it to all panelists or all participants. During the live demonstration of the talk, the blue bar will appear. Click on the chat. The presenters and I will monitor the chat. Questions will be answered throughout and at the end of the top. This presentation is being recorded and will be available in the coming days. I will hand over the microphone tour speakers who will take it from here.

Can you hear me now?

Yes.

Okay. My name is Jonathan Schroeder. I am here with Kate Knowles, so you will see my name in the panelist as Kate Knowles. We are in the same room and she will join me in a minute. Thank you for the introduction. Thank you for this opportunity to speak with you all. David has already done a fine job of introducing our subjects a I will go ahead and share the screen. There we go. All right. As David mentioned, there is three of us speaking today. Two of us are from the institution for social data, and one for the life. You will get perspectives from library users and a library and helping them. The way we will proceed, I will begin. I am the project member for the IPUMS and HDI yes. I will speak to what that means, that mouthful of acronyms and I will speak to a specific project we are doing within that editing 1980 maps and then Jenny will step in and talk about how the librarians have helped us with that project and Kate will close it out. Kate has been leading the project the last couple years. She will go into more details into how we are proceeding with that product and how we are using the government documents and maps we are getting from libraries. To get started, IPUMS and NHGIS are one of several different websites posted at IPUMS. IPUMS is a data provider of census and survey data from around the world. We have several different sites here. They provide both U.S. and international data. Both senses micro data and summary data. You can find it here and take it from this website. NHGIS provides geographic U.S. Census survey data going back to 1790. Including both summary tables and GIF files that allow you to map the summary tables throughout time. For example, some of the data we have is illustrated here. 1840s and 1940s County boundary data, as well as summary tables of the counts of population, total population and black population by county and then in the circles, you can see census tract data, Suffolk County areas that the census has been publishing data for back to 1910. We have summary tables and boundaries defined for all of these areas throughout this period. Users can come to the site and download data for the various areas and maps. There are many, many levels of summary data in publishing census data for different types of geography. If you have encountered census data for

counties or for cities or congressional districts or ZIP Code tabulation areas, most of that comes from the Census Bureau and they publish tables that summarize data for those different areas. I think it is probably the most familiar type of data for the general population, but researchers and users of the data are often more familiar with this other type of data that is available through other websites at IPUMS, micro data, which is the individual level responses to the census answers, which to the observation unit and that data, it represents specific households or specific people in households. All of the responses they provided on the census are included. That provides incredible flecks of validity. You can classify groups by different characteristics, model individual relationships, cross tabulating different prospects. The problem is, it is anonymized, which is good for confidentiality of the people but in order to keep it confidential, they have removed names in the restrict the amount of geographic detail they identify so that you can only identify areas with at least 100,000 people. So you can't get detailed data for small areas. They do limit the sample sizes somewhat, so it is not quite as a robust data set in terms of its scope compared to the summary data. It is extremely flexible for a lot of different kinds of social sciences. It is not the subject of my current blog, but I would be remiss introducing you to keep IPUMS and not tell you more about that type of data. A lot of our users also use that. Users of NHGIS data tend to be interested in refined geographic detail you can only get from summary tables. For example, National Geographic used our 2010 census block data to produce a nationwide map interactive map of ethnicity by block, illustrated as an example here for L.A.. We have summary tables for all of these levels all the way down. That is incredibly rich detail. We also have a unique product at NHGIS of timeseries and geographic crosswalks. Our timeseries links together data across time, matching similar categories across times, comparable categories and we standardize geographic boundaries. I will talk more about that but it enables you to make a map like this, using consistent footprints, consistent census tracts in every, for the example of the city of Charlotte, 1990 to 2010, even though, in fact, the boundaries of these areas changed over time. We have standardized them so you can compare them directly across time. One caveat about NHGIS is that we are data source and not a mapping or analysis tool. This map I am showing you is something I created with software my own computer. After having downloaded the data from NHGIS, you can't create a map on NHGIS, you cannot create a table on our website, but you can request a great variety of data and get it customized in a particular file format and collections of data, based on your own needs. It is very flexible for people who have access to software, such as art GIF. This is one of many different types of software that you could use to work with our data. [Inaudible] is standard GIF software and an industry leader. I have imported two files from NHGIS, both a shape file, which shows the boundaries of lock routes in 2015 and I am looking at part of Kansas City, Missouri here. I have also imported a separate file from NHGIS, a summary table. In this summary table, every road record is a block group. If you scroll over to the right, we have additional data about population and educational attainment by block group. You can download all of this, you can request this from NHGIS. And then, if you are and just as dictated map web developer, you can create this. This used NHGIS data .

Okay yeah. I am sorry. I realized you might not have been able to see that. Luckily, Kate realized it. Here you can see, this is actually by block group a map that indicates how many people in each block group have different levels of education. You can identify areas of relatively low educational attainment or high educational attainment throughout the Kansas City metro area. One of the unique features of NHGIS compared to other data providers for this type of data is that you can download nationwide for most levels. Here is all block groups for the entire U.S. Just go to the census website and you can generally get the block group data by county or possibly by state. One caveat about that is, for anything larger than a block group, the census tract, a city, county, we only provide nationwide data. Some users are looking only for data for Connecticut or for Arizona might prefer to get a smaller set of data, but we provide full, nationwide data. The data are there [Indiscernible - low volume]. Our funding comes from

the National Institutes of Health and the National Science Foundation which means we can provide all the data for freight. That is certainly one of the most important features. This is available to just about anybody. The only use requirement is you cite the use of our data and that you do not redistribute the basic data you have from us without our permission. If you agree to those terms, you can go ahead and use NHGIS. As I said, there are other providers, including the census bureau itself. You might be familiar with data.Census.gov, a portal for Census Bureau data right now the first difference between us and the site is that we go all the way back through time. The Census Bureau has developed this site only for data back to 2000. In addition to that, we have unique sources, the timeseries I discussed, the files are available through a safe interface, has our tables. We have a different style of data exploration in our website that many users prefer to data that census.gov, finding it easier to find the dated they are looking for. Different users may disagree about that but it is definitely worth taking a look. A lot of users had some frustration trying to find things on data.Census.gov and have not been able to find it as easily as they have on NHGIS. This is what the main NHGIS webpage looks like. There is a lot of resources off on the menu to the left providing information but the easiest thing to do is to just go right into the get data button and go to the data finder, which looks like this. You can see what is available. You have to select at least one data filter from these different filter types. For example, if I select a topic filter on race, I now see there are over 14,000 source tables available. We have three tabs down here that indicate the three main types of data that NHGIS provides. We list what is available under each of those tabs . The source tables are tables that we drive -- derived directly from a source. There are limited modifications. You can see we have race tables that go all the way back to 1790. One of the features of our site is that you can sort tables by popularity. If I click on this right here, you can see which tables have been downloaded the most in recent times. These are most likely to be the tables you also were interested in as a user. You can very quickly find the most commonly used race tables. Moving across to the other data types, we have also GIS files. These are the shape files that provide the boundary definitions for all of these areas. And we have timeseries tables. These are the tables that link data together across time. You can see here we have four different persons by race tables that each provide a different number of race categories. That is because they each cover a different period of time. Depending on how far back you go, you can identify different degrees of race categories and the details. Going back we can only identify five race categories but if you go back only to 1980, we can identify six and seven, if you go to 1990. We have done that research to determine which race categories are available for each year. We have done this with many other topics, as well. Educational attainment, transportation, marital status and so on. And, depending on which years you look at, the tables will be available for different levels of geography and you will see, also, down at the bottom of this list there is a different type of table. The first three use what we call nominal geographic integration. The last is using a standardized integration. What that means, I will show you. This is an example of a nominally integrated table. This is a timeseries table. In this case, it is the state level file. Each row represents each state. You can see it is a marital status table. We have counts of persons who are male and never married from 1970 through 2020 12 -- 2008 to 2012, a five-year period. This provides data for five-year periods. We have data across the entire period and for each of these different topics. We link together the data by state name. That is what makes it nominally integrated because we link the geographic information by name across time. This is also a nominally integrated table. You can see here there are a lot of blank cells. That is because census tracts don't exist consistently across time the way states do. Census tracts come in and out of existence. In 1501, it stopped existing in 1990. Meanwhile, 1505 came into existence at 2000 and continues after that. This is an easy way to link things across time but tract boundaries may change, they may come in and out of existence. It does mean you can download our shape files and link the 1990 data together with the 1990 boundaries and the 2020 data together with the 2020 boundaries and create a map this way. These areas where the boundaries have changed over time, you are unable to change accurately for the areas where the boundaries have changed using data

like this. So what we also have is geographic standardized data. For this, we have estimated the characteristics of the 2010 census tract by aggregating from individual blocks the 1990 block data and aggregated it to 2010 boundaries and we took 2000 census block and aggregated that into the 2010 boundaries. Not all of those blocks matched perfectly. We have a little bit of estimation involved here and we have also provided boundary estimates to say it is possible, based on the block data, there were only 2366 people or as many as 2391. That has the advantage of being highly accurate, because we are building into a block but the downside is, we can only do this for statistics where we have block data available. Currently, we only have complete block data available back to 1990. We have not done this for earlier years. And we also have not done it for long-term data, like a community survey would provide or the older long form census, which provided, which asked many questions of a sample of the population, questioned about education and income and employment status, things like that. Those types of data are not available for block. Instead, what we do provide right now are geographic data that will allow people to bridge a geographic crosswalk larger areas to other larger areas. Because I want to start talking more about limitations of our data, for these crosswalks, for these timeseries to produce high-quality, you want to start with blocks. We go back from 1990 because the Census Bureau has produced boundary data for these blocks going back to 1990. They also have a 1992 TIGER/Line file that includes boundaries of the census block that this is their first TIGER/Line product they ever produce. It includes 1980 but those blocks are incomplete and missing 765,000 for blocks that have statistics. Some of them are inaccurate, as well. The that leads us into the main subject of today's office talk, our project to create 1980 census block boundaries. We have digital 1980 census block summary tables available through NHGIS. This was published by the census in digital form. We have been able to add it to our website already. What we lack are complete 1980 block boundary data. These are crucial for us to be able to identify relationships between historical 1980 block data and contemporary boundary data. In order to allocate 1980 block data to 2010 tracks or any other area, we need to have these boundary data. We don't have any complete data, but we do have fairly complete block maps, print volumes that the Census Bureau published around the time after the 1980 census. So, we embark on a project to create accurate 1980 block boundary data by editing the 1992 Tiger line data to match the block maps..Project began in 2018 with the five-year NIH NI CHD grant. In 2019, my colleague, Tracy Kugler, led an effort to develop a workflow. We were able to do that using 15 volumes of block, 1980 block maps we were able to acquire directly here at the University of Mississippi -- Minnesota. The 1980 block maps were created by the Census Bureau in a series of volumes, each volume dedicated to a different metro area. We were able to start with 15. Starting in 2020, we began to ramp up. January we began with two undergrads who were going to do the bulk of our production. Early March we were starting to run low on the metro areas available in our own library so we began making I.L.L. request, interlibrary request for other volumes. And then mid-March, everything changed, you might recall. Things were a little different, libraries closed, undergrads went home and work paused. We wanted to ramp up our work. We were just getting to the point of our project where we really kind of needed to, given the funding timeline. We had some back and forth with our librarians to figure out exactly when we could start accessing materials again. Including the I.L.L. request that had come in mid-March and We were sitting somewhere collecting dust in a library and it wasn't until June that libraries began resuming service. At that time, it was incomplete service. We could not directly access the maps. They were sending them by mail. I.L.L. were coming in, a lot of institutions were not yet sending them. Even ones that started working more smoothly, I.L.L. was very challenging, first, because a lot of institutions have maps on microfiche and would send those, even when we tried our best to indicate clearly we did not want the microfiche . Microfiche was a problem for us because of the format. It was very challenging for us to sift through all the different maps we need it. Often, you need to look at two different sheets at the same time. They might be on a real, microfiche in two different locations so it was difficult to get them and even scan the microfiche. Microfiche is really black or wait -- white for and that eliminated a

lot of colors available on the maps and made them very difficult to re-. We really needed to work with the printed maps or scans. Even then, requesting individual metro areas was really the only way we could find the I.L.L. to work. That meant we would send out a request for a particular metro area and have to go to a different metro area and not know where to look. We felt, for a while, isn't there a way to reach a broader audience of librarians where there might be a large collection of maps available? We got help when my colleague, Kate Knowles, began working in January. We hired her on to speed up this project. We brought on two more undergrads. In August we found a breakthrough where we finally pieced together malaise talk to our local government publications library and see if they can help us out. Jenny is shortly going to talk about what happens, what has happened since then. I do want to say that as of March 2020, we had our first data release, 48 metro areas. Kate will catch you up to speed where we are now, over 100 metro areas now here is where I would like to hand it off.

Thank you. Can you hear me okay? Let's see. I will pull up, okay. Yeah. We can jump to the next slide. I am Jonathan Schroeder I work at the library and I will be talking about the library's involvement. We will jump to the next slide when you are ready. Great. So, as Jonathan kind of talked about, there were all these issues they were having when they were trying to request these different maps through I.L.L. and getting raw items, that kind of thing. Another piece of this to note is that the block maps were only distributed through the FDL P through microfiche, which is another reason it was harder to find. Of course, this is where the libraries come in. As Jonathan has mentioned, there were issues due to COVID in 2020 and so because of that, the libraries were aware of this project. In 2021, when Kate reached out to my predecessor , now we could get help finding and getting access to the Paper Maps that we still needed. So Alicia kind of called on the power of the community and sent a request via the GOVDOC-L mailing list with a list of the maps they still needed. Libraries responded to see if they could either scan or send their Paper Maps. A ton of different libraries responded. They were able to find 262 maps that were still needed for the project via 19 different libraries. We will jump to the next slide. Maybe there is a lag. Okay. Thanks. Yeah, so libraries held in all different ways, the lending institutions, some of them actually gave their maps in donation. It was just not something they needed to hang on to anymore so it was a great opportunity to share. Some libraries also had high quality scanning capabilities themselves so they were able to scan the maps and send us the files. In fact, one example at the University of Central Florida, they had already scanned their maps and had them available on the website. They were able to just download and use them. In other cases, people scanned the maps for the projects. They would do the scanning and share the files through the driver box, making it easier for Kate to access them. Other library set up special arrangements with their I.L.L. department so the maps could be sent to Minnesota and then be used, no matter the circumstances of that particular item and so, to Ms. facilitate all these special loans, we got maps from many different departments across our own libraries at the University of Minnesota. I will kind of backtrack a little bit and mention that one challenge right off the bat that Jonathan already talked about was around COVID, so when they first started trying to check out maps from libraries, they got those first few items through I.L.L. and then the libraries shut down. The one album before we could get back into the building and then start sending library material to patrons through the U.S. Postal Service or delivery when that was available. Our library's admin how to navigate that process with Jonathan and got the Paper Maps and then, from there, we got a lot of calls from our I.L.L. department. They worked to arrange special requests and coordinate with other libraries and I.L.L. departments to get things mailed to us, just communication around those items. We also got help from the map library. Some of those maps, they came through I.L.L. but could only be used in house at the library so in those cases Ryan Mattke and Dana Peterson would scan the map in the library's high-quality scanner and then send the files to Kate and Jonathan . Within the Pubs unit, the library unit has also been working on the project to help figure out where the maps were held and processing materials and all of that. It is very much a group effort from library staff locally with admin

and nationally with so many different libraries. Next slide. So to keep track of all of this, at the start of the project, we created a master spreadsheet. At the beginning of all of the metro areas that were needed, and then the libraries were available with any issues. We used the spreadsheet to track where to get the map as we worked with them in batches. On our end, anyway, the way we were able to watch the workload happen is we would see, whenever we were ready for new batch of maps, there was info in the spreadsheet to place the I.L.L. request and then the I.L.L. department at that library already knows to expect a special request because they had been coordinating with us and then we would reach out preemptively to check in and make sure the process had been arranged. It has been really fun getting maps from across the country. People are really interested in learning more about it. I have been talking with folks at different libraries. I had one conversation with a library in North Carolina. They expressed interest in the webinar to learn more. That is how we got the idea to be here today. That is the library background side of things. I will pass it over to talk about the process.

Hello, I am going to see if I can get my camera. Maybe. There we go. Okay. Good. Okay. For the last section, I will give a, hopefully, relatively quick overview of the workflow, give a few use case examples and then plans going forward. So, as Jonathan mentioned, we acquired the 1980 block polygons from the 1992 TIGER/Line files. We already had the 1980 data tables . From there, we generated a list of missing blocks. Those are the records in the data tables that do not have a matching block number in the 1992 TIGERs. We acquired the 1980 block maps. As Jonathan and Jenny gave you great background, I can never say thank you enough times for that reaching out to all of the government locations. Finally, we look for missing blocks on maps and edit the 1980 polygons to include those missing blocks. So here is just a quick diagram of the workflow. We do edit, that is the easiest way for us to maintain the data. That is also how the maps are broken down and how easy it is to actually find which maps the blocks are on. So the overview I just gave only covers what is in the box. After that, I will show you this and explain their are a lot more steps that happened. We do a review process. We do a check to make sure all of the polygons aligned. And then we go through final data processing. Here, this is a picture of one of these maps. This is my favorite project. I love looking at these maps. I think they are really fun. This is Louisville. It is not all of our maps that are in color but I wanted to show you one that had colors because, again, I think they are fun. The dark shaded boundaries are tracks and those small little lines with the unreadable numbers, when you zoom in, they are readable, thank you to ever did the scans. Those are the box. You can get a sense from this. It is not easy to find these blocks. It is a test of your eyesight. Here is the other sort of data we use from these block volumes. On the left is a map that comes from the index. Each of these volumes comes with an index booklet. That one on the left shows roughly which areas each map should cover. We don't use that too much but I think it is kind of a good illustration of, you know, what the metro is contained. On the right, this is sort of all of what we use to find everything. This is the editing, this is Jefferson County and there are a bunch of numbers, codes, all of those are matching numbers. Below, under the census tract, going down the list, that is the tract number and all of those four digit codes, those are the plot maps. For example, tract 1 can be found on this one, I believe. This is how we try to find these blocks. We tried to figure which sheet in theory they should beyond. Again, there is a lot that goes into this. You never know if you will find it or not. This is where we start looking. So now, an actual editing example. On the left, those are the unedited 1980 image. That is what we start with. You can see that area in green, something was wrong. It should not all be blank. That whole polygons does not have a block ID attached to it, which, as you can see from the scan, there should be block 216, 220, there is a bunch of blocks that should be in that area. This would show up on the list of missing blocks. All the blocks in that area would be missing. That we have to find them. Now I will show you the list. Hopefully, you can get a sense of it. Now we have block 216, 217, we made some changes, cut a few blocks and fit in extras where they were missing. Now you can see the boundary file is more complete. And when the data is joint, like Jonathan was showing, when you joined

the data, you are able to make a more complete map and you don't have a hole where the polygon is on the left. Now we have the Paper Maps and the edited block boundaries. We have done it. In this case, it is clean. Sometimes it is not so clean. This is the main goal of the editing, just to make them match with the data table. Jonathan shared a lovely example. Unfortunately, because the project is not complete yet, you have to go somewhere a little different to find some data. If you go to the GIS tab, you can find the 1980 block page. There is more details on the process, we have a 1992, the TIGER/Line from the census, you can download all the shape files in the data tables that accompany the shape files [Indiscernible - low volume] not just looking at lines. So, as of right now, we are very excited. We have 103 metro areas released. We have 44 states with something and we have all of the top 10 metro areas. We should have in a week more coming out soon. That should get us most of the top 20, at least 18 or 19 of the top 20. We are really excited. We had some issues in the beginning getting the map volume we wanted so we were not able to start at the top of the list, but now that we have just been able to find and request pretty much any map volume we want, we have the ability to prioritize the ones in metropolitan areas that are in the highest demand. That has been really exciting. We have some random towns in Wisconsin we happened to have maps for. It is completely odd. It is kind of fun to look at. Here is an example. This is the use of the 1980 block boundaries, the project Jonathan did with a couple of students, two summers ago, I believe. Two summers ago. This is combining all of the 1980 through 2010 block data in the city of Minneapolis and looking at the percentage of black residents over the years. This is actually a really cool blog post. Check it out. Really, the point of this is just to show getting down to the block level data is looking at the effects of racial covenants because racial covenants are so local and counted by unit. That block level data is really going to be the best to look at the effect of historical data like that. Here is another example. These are just some fun maps. This is 1980 population density in Detroit. You can tell that downtown Detroit has the high population density. I am sure all of you are aware Detroit has gone through quite a decline over the past few decades. I don't mean to be mean to Detroit. This is the 2020 population density. You can see a really drastic difference. You can also see some specific areas that have not changed. The Central Area downtown, let's look at both of them together. There are a couple areas that are relatively consistent. You can see that change varies block by block. If you track the data, you can see the changes. The block level data and using the block boundaries allows us to really see the variables that are affected by this. It might be an apartment building or two apartment buildings in a block getting pulled down and you would not necessarily see it with other data. It is interesting you can see. It is kind of fun. And then, this is just 1980, zoomed in, you can see the blocks. It looks like pixel but it is actually block data. This is 2020. A really drastic change. So the remaining question with all of this, where are the rest of the blocks? We still can't find approximately 1% of all the blocks. Usually it comes in increments and that varies greatly by metro area and county. Usually, we are looking for about 10% of the blocks and we can usually find about 90% of those. We end up with about 1% we just can't find. We don't know why. I think editors do a fantastic job of looking for these blocks. Like I mentioned earlier, we do a review process so it is a pretty small amount of human error, I think. All documents are not perfect. The 1980 Paper Maps do not physically match the 1980 data tables but we do our best to try to go back and talk to the people who made the Paper Maps and the data tables and just ask a lot of questions but we can't find everything. Unfortunately, we can't go back. What's next? We still have 215 metro areas from 1980. We are continuing to work through those. The funding for 1980 is in progress. We are hoping that will come through. We would like to finish that last chunk of metro areas and then we start 1970 and I will get to that detail in a moment. We are really excited to add another decade. I think somebody may have asked in the chat, but we are going to add crosswalks back to hopefully the 1980 and 1970 data so you can do, as Jonathan was talking about, that geographic editing to the block level across eventually six decade, I think. That would be good. So these 1970 block boundaries, we are starting in a couple weeks. I am in the middle of developing the workflow for that right now we are really excited because we get to start it

with the 1980 boundaries. We have already put a lot of work into that. Like 1980, we will be looking for those missing blocks that we don't have records for or polygons but we do have data in 1970. We will also have way too many in a lot of cases. We also actually identify which polygons, we will be looking at that to see which ones we don't have polygons or data for. They are all Paper Maps. I believe we have all of the metros at the University of Minnesota. We are really excited. We may be emailing some of you because we are missing something but we think we have a really good start with the 1970 Paper Maps, which will be very helpful. We have 233 urbanized areas. We have a few of those metro areas to get through, we will see how long it all takes. Hopefully, I will have a better sense of that in the next month. Like Jonathan mentioned, we have gotten funding from NIH and we are hopeful to continue to get funding from them. I want to give a huge shout out to the staff. The census, all of our fabulous people and then the I.T. team. They make the website work and everything possible, which is great. The entire project they do almost all of the manual editing, the quality checks, everything. I am just so grateful for them. They are really fantastic and invested in the project. We have young people getting invested. I am always impressed. So that wraps it up. I do want to just wrap up in wrapping up say this is going to be a very interesting collaboration between all the libraries, like Jenny mentioned, the jik16 and the people and it might be a good example for other libraries and universities for projects like this. It might be able to be broken down to make things more accessible. I encourage you to check out some of our websites. The URLs are right there. I think I will wrap up there to leave room for any questions or discussion. I have seen some things pop up in the chat. I am not sure how to get out of this. I guess I will leave it up for right now in case people want to go back to any slides. Jonathan Kim you have the chat open?

I do. We could proceed with the slides still up and I can store -- start voicing some of the questions. This one says, we you provide crosswalks between 1980 blocks in the 1980 neighborhood statistics and geographic units? I just did a quick web search. I am not familiar with a specific, I am not sure what you are referring to. But we do have already available on the NHGIS websites are summary files, which include data for census tracts and blocks, all of the standard geographies. In a sense, we don't need to create a crosswalk between that type of black and of the levels because the summary files already include block level data, the 1980 STF 1 block level data. It includes codes to higher-level geographies, like census tracts and block groups. So there will be the ability to bring blocks together with those higher-level entities. There are difficulties when making blocks and bridging those with places, with cities and county subdivisions in 1980. I am not sure I want to get into that. Kate actually had a slight she originally put in here on that. It is a complicated relationship. I don't think we will be able to provide people a really been a factory linkage. That is partly due to the original service. This one says, the neighborhood program, the Census Bureau mapped to block geography. I think no maps were produced but the data released on fish -- microfiche included lists of blocks. I did not know that.

I included that.

I think he was looking at that. That is all I know about it. I may be using those in a project. If you reach out, I am happy to share what we do. Like Jonathan, I am not familiar with those. I think I have seen some of that but not used it. I may be doing exactly that and linking 1982 those. If I do, I will let you know.

Would you put the email addresses back on screen? Yes, please feel free to reach out, for sure. Yes, we don't have, we have not budgeted for any substantial effort to build crosswalks like that, but I am sure if there were a file already available that identified which blocks were in each neighborhood, we can include that are a website pretty easily, if we had to. All right. Moving on. This one says, what maps exactly were used?

I am going to assume which Paper Maps. I'll just go back. Let me find it. This is a scan of one of the Paper Maps we used. This is U.S. Census of population block maps, Metro, it is there. It is just a block volume, block boundary map from 1980. They were published in 1982. As far as I know, there are not multiple versions of them.

I don't remember, were the maps completely separate?

I believe so.

There was a specific series number these maps were published under but I don't remember what it was. I think it's on the tracking spreadsheet.

Okay. If you reach out to me, I will try to look at the tracking spreadsheet and send that along. I am not going to tried to do that just yet.

Let's move this here so we can both be on screen. The next question, let me see. There are comments here. Congratulations, great effort, great presentation. Question. Could you talk more about the projects and how you identify if a block is covered?

We leveraged information for that project, information about racial covenants that has been under way for several years. It got started by identifying specific parcels that had racial covenants in the city of Minneapolis. It has been extended to St. Paul and possibly one or two others. It has really been remarkable the extent of the racial covenant issue but we did not ourselves generate the racial covenant boundaries. All we did was overlay the racial covenants information over the block data that we had from NHGIS, including new block boundary information that was created for Minneapolis at the time we were working on this project.

I will just add, just put the link to the map being part of the website in the chat so that other folks can read more about it, if you're interested. I also put the, went to the spreadsheet and found the number you were talking about earlier. I will put that in the chat.

I have not seen it yet. I don't know if it is still coming.

It might have just gone to one participant. Could you send to all?

I sent it to all attendees. Could I send it to all participants?

Yeah. Thank you.

Okay.

Thank you, Jenny. I appreciate it.

Yeah, no problem.

All right, I don't see another question. We are open to others.

I see where you put in the link, thank you.

If we are wrapping up, I just want to say thank you to everyone for coming. We are really excited to share this project with everyone, especially with hopefully 1970 coming out, we are excited. [Indiscernible - low volume] I think that wraps it up.

Thank you, we have to end this talk about right now your presentation was excellent. If you enjoyed today's webinar, check out some of her other webinars. We have some upcoming webinars. Also, we have the virtual library depository conference coming up. That information is in the chat. Thank you again, Kate, Jonathan and Jenny for a fantastic presentation. Have a marvelous day, everyone.

Thank you, everyone.

[Event concluded]