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1 UNITED STATES DISTRICT COURT  
2 SOUTHERN DISTRICT OF NEW YORK

3 -----x  
4 STATES OF NEW YORK, COLORADO,  
5 CONNECTICUT, DELAWARE, ILLINOIS,  
6 IOWA, MARYLAND, MINNESOTA,  
7 NEW JERSEY, NEW MEXICO,  
8 NORTH CAROLINA, OREGON,  
9 RHODE ISLAND, VERMONT,  
10 and WASHINGTON, *et al.*,

11 Plaintiffs,

12 v.

18 Civ. 2921 (JMF)

13 UNITED STATES DEPARTMENT OF  
14 COMMERCE, *et al.*,

Trial

15 Defendants.

16 -----x  
17 NEW YORK IMMIGRATION  
18 COALITION, *et al.*,

19 Consolidated Plaintiffs,

20 v.

18 Civ. 5025 (JMF)

21 UNITED STATES DEPARTMENT OF  
22 COMMERCE, *et al.*,

23 Defendants.

24 New York, N.Y.  
25 November 6, 2018  
9:00 a.m.

Before:

HON. JESSE M. FURMAN,

District Judge

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1 (Trial resumed)

2 THE COURT: Good morning. Welcome back. I hope  
3 everybody has voted.

4 Anything we should discuss?

5 I saw the various things that were docketed including  
6 defendants' objections to the second supplemental exhibit list.

7 MR. COANGELO: Your Honor, we did want to raise a  
8 question of the trial affidavits.

9 In light of defendants revised list of objections  
10 yesterday evening, we understand that there are five of  
11 plaintiffs' fact witnesses whose testimony is no longer  
12 objected to.

13 With leave of court, we would move their testimony in.

14 THE COURT: All right. Who are they?

15 MR. COANGELO: Those are Susan Brower, Marchelle  
16 Franklin, Samer Khalaf, Elizabeth Plum, and Arturo Vargas,  
17 which we mentioned to the court yesterday.

18 THE COURT: All right. Ms. Bailey, any objection?

19 MS. BAILEY: No, your Honor.

20 THE COURT: All right. They are admitted, and you  
21 should docket them pursuant to what I said yesterday.

22 MR. COANGELO: Thank you, your Honor.

23 THE COURT: What do you want to do about the others to  
24 which there are objections?

25 You mentioned yesterday wanting to address that today

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1 or tomorrow so you can plan accordingly

2 MR. COANGELO: Your Honor, we are plan to argue those  
3 evidentiary objections either this morning or at any point  
4 today, as the court prefers.

5 THE COURT: All right. Lets not do it right now. Not  
6 knowing exactly what you wanted to do, I haven't reviewed them  
7 myself.

8 Let me see if I can do that over the lunch period and  
9 perhaps we can do it this afternoon.

10 MR. COANGELO: Thank you, your Honor.

11 THE COURT: Any other items?

12 Have you worked out the video clip issues?

13 MS. BAILEY: Your Honor, we have reviewed the Gore  
14 video last night and discovered that there was an inadvertent  
15 mix-up between the parties with the designations and counter  
16 designations.

17 We would just like this evening to lodge any  
18 additional -- I'm sorry -- just to double-check the Gore  
19 designations.

20 THE COURT: What about the Comstock video?

21 MS. BAILEY: The Comstock video was provided last  
22 night. We did not have a chance to review that.

23 We would like to go through that tonight and have both  
24 of those complete by first thing tomorrow morning.

25 THE COURT: Very good. Please keep me posted on that.

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1           Were there other open issues or things that we should  
2 address?

3           MR. COANGELO: Nothing for the plaintiffs right now,  
4 your Honor.

5           MS. BAILEY: Nothing for defendants, your Honor.

6           THE COURT: All right. Very good. Then lets get  
7 started.

8           Plaintiffs call your next witness.

9           MR. SAINI: Plaintiffs call Joseph Salvo.

10          JOSEPH J. SALVO,

11          called as a witness by the Plaintiffs,

12          having been duly sworn, testified as follows:

13          THE DEPUTY CLERK: Please state and spell your full  
14 name for the record.

15          THE WITNESS: My name is Joseph J. Salvo, S-a-l-v-o.

16          MR. SAINI: I am Ajay Saini. I represent the state  
17 plaintiffs in this case.

18          May I approach the bench to give my name to the court  
19 reporter?

20          She just gave me a signal.

21          THE COURT: Yes.

22          DIRECT EXAMINATION

23          BY MR. SAINI:

24          Q. Dr. Salvo, what is your educational background?

25          A. I have a master's degree and doctorate from Fordham

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1 University in urban sociology and demography.

2 Q. What is your specialty within demography?

3 A. I specialize in an area which demographers refer to as  
4 applied demography, which seeks to take demographic work and  
5 apply it to the local level.

6 Q. What is your current job title?

7 A. I'm director of the population division at the New York  
8 City Department of City Planning, essentially, the city's chief  
9 demographer.

10 Q. What are your roles and responsibility responsibilities in  
11 that position?

12 A. I direct the division that provides city agencies with  
13 demographic information or policy formulation, program  
14 planning, implementation of programs.

15 My division creates population projections, population  
16 estimates. We provide demographic consultation to city  
17 agencies, outside organizations, the press.

18 We essentially live and breathe the neighborhoods of  
19 New York from a demographic standpoint.

20 Q. How many people do you oversee at the Department of  
21 Planning?

22 A. Currently, we are a division of eight.

23 Q. How long have you been the city's chief demographer?

24 A. I've been the city's chief demographer for 25 years.

25 Q. How long have you worked for the city?

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1 A. Over 30 years.

2 Q. Is all of that time with the Department of Planning?

3 A. Department of City Planning, yes.

4 Q. How many censuses have you worked on on behalf of the City  
5 of New York?

6 A. This will be my fourth census.

7 Q. So your first census was 1990?

8 A. Yes. I arrived at the department just after the 1980  
9 census, actually.

10 Q. What was your role in each of these censuses?

11 A. I had multiple roles, but the two primary ones, after 1990,  
12 were conducting an address list review of the addresses that  
13 are used as the foundation for the decennial census, and in  
14 addition, I would provide support for the city's outreach  
15 efforts, and those efforts by analyzing, for example, the mail  
16 response rates of different communities in the city.

17 Q. I want to take both of those in turn.

18 What is the address list that you're referring to?

19 A. The address list is the foundation for the decennial  
20 census. If you do not have an address that is on the Census  
21 Bureau's master address file, you cannot be enumerated.

22 So in the 1990s, many of us at the local level lobbied  
23 the federal government to allow local jurisdictions to have  
24 access to the address list used to conduct the decennial  
25 census. Starting in 2000 -- the bill was passed in 1994, and



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1 starting in 2000, we had access to that list. We were able to  
2 review it. We did multiple years of field work in 2000 and  
3 again in 2010, and we corrected, added to the address list.

4 In fact, at one point in my career that I'm very proud  
5 of is that we gave the Census Bureau, in the late '90s, over  
6 400,000 addresses in the City of New York that were missing  
7 from the list. That, for the first time, pushed the city  
8 officially over the eight million mark.

9 Q. What field work do you do to review the address list?

10 A. We have teams of field workers -- most recently in 2010,  
11 for example, and now for 2020 -- we have teams that go out into  
12 the field to look at addresses to essentially -- we do this for  
13 a couple reasons. One is we want to verify our own data, the  
14 veracity of our own local data. For example, property records  
15 from the city's tax and finance files. We want to verify those  
16 records.

17 And the other thing we want to do is we want to see to  
18 what degree we can observe the presence of housing units that  
19 may not be on the Census Bureau's list. Many of these housing  
20 units don't have clear labeling. They are hidden, essentially,  
21 from view. We wanted to determine how frequently we could  
22 observe the telltale signs of occupancies, doorbells, mailboxes  
23 and the like.

24 Q. You also mentioned outreach efforts.

25 Can you explain that a little bit more?

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1 A. Every census we conduct an evaluation of the mail return  
2 rates. Essentially, the percentage of the time that people  
3 self-respond. We take a look at self-response rates because we  
4 want to focus our efforts in the most efficient way possible.

5 So areas where people do not self-respond are places  
6 where we want to put a lot of our resources. So we are  
7 expected to come up with the empirical foundation for an  
8 outreach effort by the people of the city who work in the  
9 communities.

10 Q. Why does the city need to put its outreach efforts in areas  
11 that do not respond?

12 A. Well, since 1970, the census has essentially been a  
13 self-response instrument. It relies on self-response as the  
14 main data collection mode.

15 The quality of self-response data, by the Census Bureau's  
16 own evaluations, is very, very high. The farther you move away  
17 from self-response, the greater the likelihood that the  
18 enumeration could be comprised. Error enters the picture with  
19 all the operations that take place to collect data from the  
20 people who fail to respond. So self-response is very, very  
21 important.

22 Q. How closely do you work with the Census Bureau predicting  
23 on the address list issue and the outreach issue?

24 A. In all my years in city government, we have worked very,  
25 very closely with the Census Bureau, and I have great respect

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1 for what they do.

2 Essentially, we provide the Census Bureau with our local  
3 take on decisions that they need to make, for example. But  
4 importantly, the Census Bureau and the Department of City  
5 Planning, that is my division, we work on projects together in  
6 a number of areas.

7 Q. Does the Census Bureau get input from cities and other  
8 stakeholders through advisory committees?

9 A. Very much so.

10 Q. What is the function of these advisory committees?

11 A. Advisory committees are supposed to provide an independent  
12 voice, an outside look at what the Census Bureau is planning on  
13 doing. My role, for example, in the commerce secretary census  
14 advisory committee around the 2000 census, and again in the  
15 census scientific advisory committee last decade, has been to  
16 bring the local take to national decision taking.

17 When the Census Bureau makes a decision, there are  
18 local ramifications, and the Census Bureau career professionals  
19 want to hear about that.

20 Q. What did you do in your role with those advisory committees  
21 that you just mentioned?

22 A. I participated in a series of activities involving what I  
23 would call innovations in the address list work that needed to  
24 be done for the census. The Census Bureau increasingly has  
25 tried to maintain an update, an address list, on a regular

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1 basis, and putting possibility the mechanisms to do that is  
2 something that they would like to do with the locals.

3 In other words, how do we go about maintaining an address  
4 list over the course of a decade. There was a time back in the  
5 1980s, for example, where you take a census and then the  
6 address list would no longer exist.

7 Now, with the advent of other census programs and with  
8 the desire to improve the base of addresses for the census,  
9 they have engaged in continuous updating. We have helped them  
10 explore what that is all about.

11 Q. Are you familiar with the National Academy of Sciences?

12 A. Very much.

13 Q. What is the National Academy of Sciences?

14 A. It is a body of top scientists in the nation that are --  
15 that serve to provide the scientific take on the nations  
16 problems.

17 Q. Are you affiliated with the National Academy of Sciences?

18 A. I am affiliated, or that is I have served on a body for a  
19 group called the Committee on National Statistics or CNStat.  
20 The Committee on National Statistics brings science to bear on  
21 public policy, and especially involving programs of the federal  
22 government.

23 I have been -- I have served now, been asked and have  
24 served, on four expert panels of the Committee on National  
25 Statistics all related to census issues.

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1 Q. What was your role in those panels?

2 A. I would be engaged in a number of different activities, but  
3 the primary activity, the one that stands out the most to me,  
4 has to do with taking the Census Bureau's decisions and looking  
5 at local data and providing the group of experts that I was  
6 working with, with the view from New York.

7 Let me add, New York is a great test bit. We have  
8 large populations of all kinds of different people in the city.  
9 The dynamism of the city, the change that occurs in our  
10 neighborhood, the representation of different groups, the  
11 different types of housing, we have an ideal test environment  
12 here. The Committee On National Statistics wants to access  
13 that, and has successfully done so, I might add.

14 Q. Dr. Salvo, were you asked to provide an expert money in  
15 this case by the State of New York?

16 A. Yes.

17 Q. Were you compensated for your work on this case?

18 A. Only to the degree that I am employed by the City of  
19 New York.

20 Q. Were you asked to examine the Census Bureau's nonresponse  
21 followup procedures?

22 A. Yes.

23 Q. What is nonresponse followup?

24 A. It is all those procedures that need to be engaged in for  
25 people who fail to self-respond in the census.

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1 Q. What specific procedures are you referring to?

2 A. First, the assignment of enumerators to knock on doors, the  
3 use of, now in 2020, the use of administrative records to try  
4 to determine whether housing units are vacant or not, the use  
5 of administrative records to fill in the gaps, so to speak, or  
6 to actually complete an enumeration, and the use of proxy  
7 respondents instead of respondents within the household. And  
8 finally, the use of a statistical -- statistical operation,  
9 which is known as imputation, which very simply means you take  
10 the information from the people who responded and you  
11 substitute it for the people who did not respond.

12 Q. What, if any, experiences as the city's demographer have  
13 you had related to nonresponse followup procedures?

14 A. I have now witnessed three, I'll be going on my fourth  
15 census, where I have witnessed census operations on the ground  
16 in various forms.

17 I have been fortunate as part of my committee work with the  
18 -- with CNStat, the Committee On National Statistics, to  
19 actually go out with some enumerators to actually see what  
20 happens in New York City, but also in the area around Newark,  
21 New Jersey.

22 Q. What, if any, experience have you had related to the use of  
23 proxies in the census?

24 A. I would say extensive in this form.

25 When we conduct our LUCA working, our local update of

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1 census addresses, or what I would refer to as our general  
2 address list review, we spend months and months in the field.  
3 We go out and we observe, like I said. There were two  
4 situations, though, in 2003 and 2004 and 2011 and 2012, where  
5 we went out with the Census Bureau in 2003-4, it was a special  
6 operation to evaluate small multi-family buildings. And in the  
7 '11-'12 period, to evaluate hidden units to see how well the  
8 master address file was recording the existence of these units  
9 in the small multi-family buildings.

10 So I got a really good look. When we went out in the  
11 Census bureau. We talked to people and we engaged people, and  
12 we tried to look at what our eyes and ears, you know, what they  
13 tell us, and that would be a considerable experience.

14 That would -- I think that would cover it.

15 Q. What experiences have you had related to the use of  
16 administrative records in the census?

17 A. The use of administrative records, as you know in 2020,  
18 those administrative records are going to be employed  
19 substantially. I have had -- I have had experience with admin  
20 records involving the city's property files, involving a number  
21 of datasets that we use to conduct our address list review, and  
22 those would vary. I've had experience with commercial datasets  
23 that we use to try to find hidden units, as I put it, the  
24 city's property files, the property address and taxation and  
25 finance files. A number of datasets that we have used over the

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1 years to just get a sense -- for example, we have records from  
2 the Department of Education. We have records that allow us to  
3 go and test what we think is out there, try to get some sort of  
4 a feel for that.

5 Q. What experiences have you had related to imputation?

6 A. Imputation is something that you observe. OK. You see the  
7 output of an imputation process.

8 The experience that I have had with imputation is observing  
9 what the Census Bureau's operations have produced in the way of  
10 imputed units or imputed people.

11 For example, there is a tabulation, there are multiple  
12 tabulations over the years that give you an idea of the level  
13 of imputed data, and you can actually evaluate that level of  
14 imputed data and you can see what impact it has on the numbers  
15 you're using.

16 MR. SAINI: At this time, the plaintiffs offer  
17 Dr. Salvo as an expert in local demography and local census  
18 operations.

19 THE COURT: Any objection?

20 MR. COYLE: No objection.

21 THE COURT: So certified.

22 BY MR. SAINI:

23 Q. All right. Dr. Salvo, I would like to ask you questions  
24 about your conclusions in this case.

25 First, are you familiar with Dr. John Abowd?



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1 A. Yes.

2 Q. Who is Dr. John Abowd?

3 A. Chief scientist at the U.S. Census Bureau.

4 Q. Were you asked to respond to conclusions that John Abowd  
5 reached in connection Dr. John Abowd reached in connection with  
6 this lawsuit?

7 A. Yes.

8 Q. What conclusions of Dr. John Abowd, as a general matter,  
9 were you asked to respond to?

10 A. Well, John Abowd and I both agree that the citizenship  
11 question on the census is likely to lower the level of  
12 self-response. Where we have disagreement is in how that will  
13 play out.

14 Once you -- as I said earlier, once you remove or you  
15 move farther and farther away from self-response, you start  
16 engaging in operations that introduce error in the decennial  
17 census.

18 The Census Bureau essentially has said that they will  
19 provide enumerators, more money. And my argument is, it is not  
20 about the number of enumerators and about the money, it is  
21 about your ability to get people in the right places, to hire  
22 people who right now have to be citizens. It is your ability  
23 to get people who were going to be from the local neighborhoods  
24 working in the local neighborhoods.

25 And I think the thing that was really overlooked is

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1 that all the errors that are associated with those routines  
2 that have to be put in place when people do not self-respond,  
3 they compromise the quality and the count in the census.

4 Q. Why do you say you and Dr. John Abowd agree about the  
5 effect of the citizenship question?

6 A. Well, I read Dr. Abowd's material, and it indicates that  
7 there is very likely to be a lower level of self-response in  
8 the 2020 census as a result of the introduction of the  
9 citizenship question.

10 Q. What materials specifically did you read?

11 A. I read his declaration, testimony.

12 Q. In evaluating Dr. John Abowd's conclusions, what type of  
13 analysis did you do to arrive at your conclusions?

14 A. Please repeat.

15 Q. Sure.

16 What type of analysis did you do to arrive at your  
17 conclusions that you're testifying about today?

18 A. OK. There are three main avenues that we pursued.

19 One was the Census Bureau's analysis of the 2010  
20 census, extensive reports on various operations in the 2010  
21 census, which, by the way, the Census Bureau is uniquely able  
22 to do. OK.

23 The second source is their testing, the testing that  
24 took place after 2010 in a number of sites -- such as Maricopa,  
25 Arizona; Harris County, Texas; Los Angeles, California -- and

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1 we utilized that data as a litmus test of their operations.

2 And third is my experience on the ground, looking at  
3 the ramifications of past operations. Again, getting very  
4 close to what the Census Bureau does and observing the impact  
5 on our neighborhoods.

6 Q. When you said the Census Bureau is uniquely able to do  
7 something, what do you mean by that?

8 A. I mean that the Census Bureau has access to all of its  
9 operational information. They have the ability to go back and  
10 look at how their procedures all worked. We get a look at  
11 that, but only in a selective way. We cannot see everything  
12 that goes on behind -- behind that, you know, behind that wall  
13 that exists. We need to be -- I mean, we evaluate what they  
14 produce and provide to us.

15 Q. And the information that they provided to you, does that  
16 relate to the 2010 census?

17 A. Very much so.

18 Q. The experiences as the local demographer that you  
19 referenced, what were those that you relied on for this case?

20 A. Multiple cycles of field work. Again, working on the  
21 address list, engaging people in the local communities, trying  
22 to figure out whether those basements did or did not exist,  
23 checking our own administrative data.

24 In addition, doing an exhaustive analysis of the decennial  
25 and the decennial census data, looking specifically at

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1 tabulations that tell us something about operations. For  
2 example, the number of cases that get imputed in a tabulation,  
3 how much data is actually -- was actually produced as a result  
4 of a statistical algorithm versus what was actually collected  
5 from respondents themselves.

6 Q. Based on your analysis, what conclusions did you reach  
7 about -- withdrawn.

8 What conclusions did you reach about the effect of the  
9 citizenship question on New York City?

10 A. The citizenship question is likely to compromise  
11 self-response. I think that that is pretty much, at this  
12 point, agreed on by all parties.

13 As I said earlier, once you move away from that primary  
14 mechanism of data collection, you open the door to a whole  
15 bunch of things, a whole variety of operations, each of which  
16 has an error component.

17 If you start going down that road in excess, to too much,  
18 to too great a degree, you end up with a census that is  
19 manufactured in ways that compromise accuracy and compromise  
20 the count of population.

21 Q. What operations are you referring to?

22 A. I'm referring to, first off, the very going out and using  
23 proxy respondents. If people do not respond when you knock on  
24 the door, proxy respondents vary greatly in what they are going  
25 to tell you or not tell you.

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1           Then this time around, the use of administrative  
2 records, I think, has problems important to consider. And then  
3 the use of administrative records both for vacancy and for the  
4 determination of characteristics of housing units, and then  
5 imputation by itself is a compromise. It takes what you know  
6 and uses it to describe what you don't know. Basic principle  
7 of survey research is that that produces a compromise.

8 Q. You mentioned compromising accuracy and compromising the  
9 count of population.

10           What is the difference between those two?

11 A. We can think of a total count in a neighborhood, all right,  
12 and then we can think about the characteristics of those people  
13 that are involved in that count.

14           There is a tendency to separate the two. I understand why  
15 that happens. But what people -- again, this is probably a  
16 reflection of the fact that people maybe think in larger terms,  
17 they don't think about local level data.

18           When we look at a neighborhood, the sub groups that are  
19 identified by the variables whose quality is compromised  
20 becomes a huge issue.

21           For example, if you have a group of people and you say in a  
22 neighborhood like Bedford-Stuyvesant, you have 1,000 people and  
23 you have the attributes of those thousand people, you've got a  
24 count of 1,000. Then you look at the attributes of those  
25 people, and the attributes are a function, lets say, of

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1 imputation. And, again, those people, their description and  
2 their characteristics, lets say, by race, by age, the age sub  
3 group is a very important total. The black population is a  
4 very important total.

5 That is, in some minds, divorced from the total count.  
6 But if there is a quality issue with those characteristics, you  
7 can't define those sub groups accurately. What use is it to  
8 have a total population that may be, quote, correct, but have  
9 attributes that give you wrong information for sub groups that  
10 are critical for the delivery of city services, for example, or  
11 for the determination of a particular need. It is just as  
12 important to have a quality in the data as it is to have a,  
13 quote, total count.

14 Q. So, Dr. Salvo, I would like you to talk about or walk us  
15 through all of the different NRFU procedures that you have  
16 testified to today. But at the outset, it would be helpful to  
17 describe some basic concepts.

18 Can you define what self-response is?

19 A. Self-response is when people in the past, via a mailed-in  
20 questionnaire and now by way -- heavily by way of the Internet,  
21 when people respond on their own.

22 THE COURT: Can I interrupt for one second and just  
23 ask you to go back one step?

24 A moment ago, if I understood correctly, you testified  
25 that there are two separate problems. One is affecting the

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1 accuracy of the total count, and I think it is sort of obvious  
2 how that might affect the city. The second is affecting the  
3 characteristics within the population.

4 So even if the overall count is accurate, but the data  
5 is compromised with respect to the composition of the  
6 population, that that would also affect the city in its  
7 delivery of services.

8 Can you spell that out and how the city uses that kind  
9 of data?

10 THE WITNESS: Sure.

11 I'll go to a recent example. The Department of  
12 Education. We provide the Department of Education, when they  
13 are making a school zone boundary decision in changing the  
14 boundary around schools and the catchment areas for students,  
15 they ask us to come in and give them a demographic vignette of  
16 those areas and, most importantly, they want to know how those  
17 areas are changing. They want to know about the composition of  
18 those areas over time.

19 We provide them with that vignette. For example, if  
20 we've got a problem with children under six or children of  
21 school age, that compromises what we do. Similarly, the data  
22 by race in Hispanic origin in that situation would, I believe,  
23 compromise if the data were not accurate. It would compromise  
24 our ability to give them an accurate vignette of what is  
25 happening because different populations are changing the city's

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1 neighborhoods.

2 I'll hold off offering an example of that, perhaps,  
3 until later on, but this has real ramifications because we need  
4 to know about those sub groups that might be moving into an  
5 area. We are seeing a white influx into Prospect Heights, for  
6 example.

7 Where can we determine that? We need to look at the  
8 data to figure that out. If it is not showing up because of a  
9 compromised count, again, of attributes, and then we have a  
10 problem.

11 Is that good, Judge?

12 THE COURT: Yes.

13 I think more concretely, is it your understanding or  
14 what is your understanding with respect to, for example, city  
15 services that are distributed based on that data, on the sub  
16 groups sort of composition data. Aside from you mentioned  
17 education, sort of defining of districts for education  
18 purposes.

19 Are there other ways in which your understanding is  
20 that the city would use that data in distributing services or  
21 resources or the like?

22 THE WITNESS: Yes.

23 I can offer you another example involving language  
24 services where we come up with the top language groups by  
25 neighborhood to give people -- to give the city an idea of



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1 where language services need to be provided. That goes to the  
2 heart, I believe, of the citizenship question, again, in the  
3 proclivity of the propensity of people to respond. But I'm  
4 thinking about now city agencies that come to us, for example,  
5 from the Department of Health.

6 The Department of Health knows different populations  
7 or has an idea of different populations that are at risk to  
8 particular illnesses, for example. I'm thinking about an  
9 example, again, recently where the health department asked us  
10 to help them with vital rates and the calculation of vital  
11 rates for particular communities. Frequently they need that  
12 data by age, almost a must, and they need that data by race and  
13 Hispanic origin.

14 If I do not have an accurate idea of those numbers,  
15 then the health department goes ahead and they make decisions  
16 based on what amounts to a flawed profile of who is there.

17 THE COURT: What do you mean by distribution of  
18 language services?

19 THE WITNESS: What I mean is the mayor's Office of  
20 Immigrant Affairs and cooperation with a whole variety of  
21 community groups looks at the communities that need to get  
22 English language services, and those English language services  
23 are distributed heavily based on maps that we create of groups  
24 that have particular -- particular needs based on the number of  
25 what we call LEP, or limited English proficient persons.

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1 THE COURT: All right. Thank you.

2 BY MR. SAINI:

3 Q. Dr. Salvo, can you explain what a vital rate is?

4 A. It is a calculation. The health department calculates all  
5 kinds of vital rates. An numerator of the vital rate is some  
6 depends of disease. The denominator of the vital rate is  
7 supposed to describe the population at risk to that illness.

8 So you need to have a good numerator, which the health  
9 department does have, for example, in the case of a birth rate  
10 or in the case of a particular illness, and then we are asked  
11 to come up with a denominator. OK?

12 If the denominators by race and Hispanic origin and age are  
13 not accurate, we end up with -- we end up with rates that are  
14 not accurate, and in the case of a few neighborhoods in New  
15 York in 2010, there was a serious problem along these lines.  
16 If the rates are not accurate, it means that the health  
17 department can't make good decisions on where to deploy  
18 resources.

19 Q. Why was there a problem in a few neighborhoods in New York  
20 in 2010?

21 A. We had difficulties with the -- well, there were two  
22 corridors in New York City in the 2010 census where the Census  
23 Bureau erroneously classified housing units as vacant. It is  
24 in northwest Queens and a whole swath of southern Brooklyn.

25 Those two areas had compromised populations. We estimated

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1 to the tune of 65,000 people, because Census Bureau operations  
2 in NRFU did not work properly. In effect, it took  
3 neighborhoods like Bay Ridge, Dyker Heights, Bensonhurst,  
4 Gravesend, Homecrest, Manhattan Beach, and essentially declared  
5 that there were 500 percent increases in the number of vacant  
6 units. We're talking about dozens of blocks with huge  
7 increases in vacant losing units.

8 The same thing happened in Astoria and Jackson Heights  
9 in northwest Queens, and we lost population. As a result of  
10 this -- I work in a city planning agency, we would know if  
11 these neighborhoods were experiencing abandonment, which is  
12 essentially what we're talking about here -- a level of  
13 abandonment that we would have to go back to the 1970s to see.  
14 What we, in effect, have here is a situation where there was a  
15 serious problem where the enumeration was compromised in NRFU.

16 Q. We are going to come back to this example a little bit  
17 later. Why don't we go back to the outset and just define some  
18 terms.

19 So you explained what self-response is. Can you explain  
20 what happens to households that do not self-respond?

21 A. Households that do not self-respond go into the nonresponse  
22 followup operation and an enumerator is sent out. The  
23 enumerator knocks on the door. If no one is there, then we'll  
24 leave a message saying there is still time to self-respond, and  
25 then wait and see. If that doesn't work, it then will go

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1 into -- back into the NRFU pool that has to be pursued.

2 Q. What are enumerators?

3 A. Enumerators are the census workers that go out and knock on  
4 doors in an effort to collect data from people who failed to  
5 respond.

6 Q. How does the Census Bureau recruit enumerators?

7 A. They recruit enumerators in a number of ways. Ideally,  
8 right from the local neighborhoods where people are expected to  
9 work, but increasingly through the Internet, the Census Bureau  
10 has been doing that too. They put the call out for  
11 enumerators. Usually several months before the census, it goes  
12 full tilt, and they hire people.

13 Q. Why did the Census Bureau look to recruit enumerators from  
14 the neighborhoods where they live?

15 A. Because when you're dealing with populations that fail to  
16 self-respond. You need to have your neighbors there asking you  
17 to respond, pure and simple. If you do not do that, then the  
18 likelihood of getting people to respond is low.

19 Q. Does the Census Bureau recruit enumerators with specific  
20 language skills?

21 A. Yes.

22 Q. How does it go about doing that?

23 A. It puts a call out. Actually, right now are call-outs for  
24 partnership specialists, people who will be put to work in  
25 communities talking to people in their own languages.

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1 Q. What, if any, restrictions are you aware of that the Census  
2 Bureau is planning for enumerators in 2020?

3 A. Right now, the Census Bureau is unable to hire noncitizens.  
4 Citizens only. New York City has 3.2 million foreign-born,  
5 45 percent of them are noncitizens. We have neighborhoods that  
6 are 70 and 80 percent foreign-born. We need to have those  
7 people working in those neighborhoods, and this is a problem  
8 now. And if the rule is not changed, there will be a problem  
9 down the road.

10 THE COURT: Is that a new condition in past instances,  
11 enumerators to be noncitizens, is that correct?

12 THE WITNESS: That's correct, Judge. In past  
13 censuses, usually an arrangement was made between the director  
14 of the Census Bureau and other agencies to allow for  
15 noncitizens to be hired, usually based on language, the need  
16 for persons who speak particular languages.

17 THE COURT: Do you know when or why that condition was  
18 imposed?

19 THE WITNESS: The current condition?

20 THE COURT: Yes.

21 THE WITNESS: I do not know.

22 THE COURT: All right.

23 BY MR. SAINI:

24 Q. For 2020, what, if any, role do enumerators have in  
25 identifying vacant housing?

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1 A. A very big role. The enumerator will go out, knock on  
2 a door, and attempt first to make a determination, but the  
3 ultimate -- I shouldn't say that. Actually, they have a role.  
4 Ultimately, it comes down to what they find.

5 If they don't find anyone home, they leave that  
6 reminder there, still time to self-respond. If they don't get  
7 a response that way, then the Census Bureau will turn to  
8 administrative records to try to achieve a resolution.

9 Q. What do you mean by try to achieve a resolution?

10 A. They will look at a whole variety of administrative records  
11 and create in what statistics we call a model and try to come  
12 up with a determination as to whether an address has a  
13 representation in administrative data that they have deployed.

14 Q. What if the address isn't located in administrative records  
15 that they have deployed?

16 A. Ultimately, if the Census Bureau cannot find that  
17 administrative record, then the unit will be declared vacant  
18 and will be removed from the nonresponse followup universe.

19 Q. What happens to the count of persons that may be living in  
20 that house?

21 A. There is no count.

22 Q. How does this process compare to the process of identifying  
23 vacant housing in 2010?

24 A. In 2010, the Census Bureau did not deploy administrative  
25 records. People would go back up to six times in order to make

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1 a determination and try to -- after the sixth visit, talk to  
2 proxy respondents, like landlords, neighbors, postal workers,  
3 and the like.

4 Q. How were houses identified as vacant in 2010 then?

5 A. Usually through either interview or observation or some  
6 sort of proxy verification.

7 Q. Was there any second level of review for checking the  
8 vacancy status of a housing?

9 A. Yes, yes. In 2010, the Census Bureau employed what is  
10 called a vacant delete check. They would -- a NRFU interviewer  
11 would go out, and they would say, There is nobody here. And  
12 ultimately they would say, Maybe I talk to the landlord. The  
13 landlord said there is nobody living in that basement.

14 So the Census Bureau would send out a second,  
15 different second enumerator to do a check of the work of the  
16 first, essentially or two -- well, actually to come up with  
17 their own independent view of whether the unit was vacant or  
18 not.

19 Q. What, if any, testing has been done on the new use of  
20 administrative records in this process?

21 A. There are tests that have been conducted in a number of  
22 places. The places that come to mind are Los Angeles County.  
23 Again, for its complexity. I always pay attention when I hear  
24 about a test in a big city. And then in addition to Los  
25 Angeles was Harris County, Texas, in Houston.

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1        These areas were used in a test where the Census Bureau  
2        went out and said, OK, lets see what the admin records tell us  
3        by themselves. They went out and in nonresponse followup in  
4        these tests and they made a determination regarding whether  
5        housing units were or were not occupied using -- solely using  
6        administrative records.

7        They then go out and do a field evaluation of those units,  
8        and about 20 percent of the time those units that the admin  
9        records said were vacant were actually occupied. There were  
10       people in those units.

11       Now, from a national standpoint, 80 percent might not seem  
12       like a big deal, but it is huge for New York, because you can  
13       bet in New York that that 20 percent is going to be a lower  
14       limit of what actually is here.

15       I might add, in addition, there were a number of situations  
16       where they call for the deletion of units saying they were not  
17       part of the stock. And when they went out, they found out  
18       there were, again, people in those situations.

19       So this does not inspire confidence, especially in a city  
20       as complex as New York.

21       Q. I would like to come back to that in a little bit.

22       You also mentioned proxy responses. Can you explain  
23       what that is?

24       A. A proxy response is information garnered from a  
25       knowledgeable person, someone who knows something about the



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1 apartment or the building that you're looking at. And that may  
2 be a landlord, it may be a neighbor, a postal worker, someone  
3 that the enumerator feels has substantive knowledge of the  
4 situation.

5 Q. How will the proxy response process work in 2020?

6 A. The Census Bureau will send out an enumerator. They will  
7 knock on the door. Nobody responds, they will put the tag on  
8 the door and say, Come on, self-respond.

9 It doesn't work. They will then go out two more times.  
10 After the third attempt, the unit becomes what we call what the  
11 Census Bureau calls proxy eligible, meaning go out and find  
12 somebody and talk to someone and figure out what is going on  
13 here.

14 Q. Who do the Census Bureau use -- who do enumerators often  
15 use as examples of proxies?

16 A. They'll use a neighbor, but the proxy that we historically  
17 have paid a lot of attention to is the proxy involving  
18 landlords used a lot.

19 Q. What challenges does the use of proxies in this way pose  
20 for New York City in 2010?

21 A. This is the third cycle where we have written to the Census  
22 Bureau asking them or indicating to them that in the training  
23 for their enumerators, they need to incorporate a component of  
24 observation.

25 If you go to a building where no one is responding and

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1 there is a basement there and that basement has a mailbox or  
2 that basement has a doorbell and a landlord looks at you  
3 straight and said, straight in the eye and says, There is  
4 nobody living there, OK, that is a problem for our enumeration,  
5 a serious one.

6 What worries me, especially this go around, is that the  
7 Census Bureau is putting more of an emphasis on using landlords  
8 as a source of information. We have recently written, in  
9 response to a federal register notice, a recommendation that  
10 the Census Bureau allow the enumerators to use their eyes and  
11 use their observation skills as part of the training they  
12 should be doing that.

13 I have discussed this and will be discussing it further  
14 with the regional director of the Census Bureau here in New  
15 York, as I have now for the past few cycles, in an effort to  
16 get people to see what they see, and not necessarily what they  
17 hear from a landlord, which may be a response to occupancy of  
18 an illegal apartment.

19 Q. How does the proxy response process for 2020 compare to the  
20 process in 2010?

21 A. In 2010, you would go out six times, and after the sixth  
22 visit, you would pursue a proxy. This time around, it is after  
23 the third visit.

24 Q. What are area census offices?

25 A. These are kind of the nodes in the system that manage the

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1 census in the field.

2 Q. How many areas census offices were there in New York City  
3 in 2010?

4 A. There were 20.

5 Q. How many are planned for New York City in 2020?

6 A. 13.

7 Q. Generally speaking, are there any other changes planned for  
8 nonresponse followup operations for 2020 that we haven't  
9 covered yet?

10 A. For 2020, the Census Bureau is not going to have an  
11 on-the-ground field presence the way they had in 2010. The  
12 City of New York is going to try to provide the on-the-ground  
13 assistance. The Census Bureau will be taking interviews over  
14 the phone, I believe, as a substitute for on-the-ground  
15 assistance with response, with helping people to respond. So I  
16 think those would be a couple of items I would -- I would  
17 earmark.

18 Q. What do you mean by on-the-ground presence?

19 A. The Census Bureau in 2010 would actually have a physical  
20 presence in a neighborhood. They would have a location that  
21 you could go to to get help with filling out your  
22 questionnaire. That is going to disappear. That is, right  
23 now, at least by the current plan, they are no longer going to  
24 have those places.

25 Instead, they are going to take interviews over the phone.

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1 And like I said before, the city is going to attempt to  
2 actually put physical questionnaires assistants in place in the  
3 neighborhoods.

4 Q. What, if any, conclusions have you drawn about the impact  
5 of these changes to nonresponse followup procedures?

6 A. None of these will help, pure and simple. We are headed in  
7 the wrong direction, and we're headed in the wrong direction on  
8 the assumption that the procedures that the Census Bureau has  
9 put in place is going to take care of what probably will be a  
10 higher NRFU workload in New York.

11 Q. Why do you say there is going to be a higher NRFU workload  
12 in New York?

13 A. Because self-response will decline. The citizenship  
14 question, I've seen in the field, is a threat to people, and  
15 people are asking themselves whether it is -- I'm speaking now  
16 from experience, from a round of field testing that was just  
17 done around the latest address list review. I see in the field  
18 the fear that has been generated.

19 THE COURT: Can I ask you to clarify, when you say a  
20 higher NRFU workload in New York, do you mean by the Census  
21 Bureau in New York or by New York City and New York State local  
22 or in-state officials?

23 THE WITNESS: I mean by the Census Bureau. The Census  
24 Bureau is likely to experience an increase in the number of  
25 housing units that have to be pursued because of the drop in

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1 self-response.

2 In their ramifications for the city, because we then  
3 need to get out there in larger numbers this time, because we  
4 have to kind of makeup for the fact that there are going to be  
5 more people who are going to need attention in an effort to get  
6 them to respond.

7 THE COURT: Have you done that?

8 Can you tell me a little more about that, what steps  
9 you have taken or plan to take to address those concerns?

10 THE WITNESS: The city is currently putting a plan  
11 together. There is an office, a census office out of city  
12 hall, that has been and actually is being created with a  
13 director, a deputy and 13 community organizers, each of whom  
14 will work in the 13 area census office plate areas.

15 The city has allocated, thus far, \$5.5 million for the  
16 creation of this infrastructure in order to be -- to have a  
17 greater presence in the neighborhoods. The census, the  
18 community organizers will have a cadre of volunteers, paid and  
19 unpaid staff, to actually hold the hands of people who are  
20 afraid.

21 THE COURT: Is that different than in past censuses?

22 In other words, are those increased steps relative to  
23 past censuses?

24 THE WITNESS: Very much. Very much.

25 THE COURT: All right. Go ahead.

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1 BY MR. SAINI:

2 Q. What, if any, impact would an increase in funding for  
3 nonresponse followup for 2020 have on your analysis?

4 A. If the -- the Census Bureau has said that they are going  
5 to, you know, have a pot of money, so to speak, to triage or to  
6 take care of what might be an increase in nonresponse followup.

7 But it is not a matter of money. As I mentioned before, it  
8 is not a matter purely of money and deploying people. I  
9 mentioned before all the different issues involved in trying to  
10 deploy culturally sensitive people, people who speak the  
11 language of people in neighborhoods.

12 It is the issue of opening the door to problems. In an  
13 ideal world, if we could get people to self-respond at high  
14 levels, you close the door on the kinds of problems that get  
15 unleashed when you start with administrative records, when you  
16 start with more proxy respondents. When you go to statistical  
17 imputation, all of this introduces error that can compromise  
18 the census.

19 Q. How does that relate to the citizenship question?

20 A. Anything that drives down self-response is a problem.  
21 Anything that drives down or pushes self-response down has to  
22 be considered a serious, serious problem for, ultimately, for  
23 the census.

24 Q. That is because it drives up the NRFU workload?

25 A. Yes. Because you then have to engage in all these other

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1 operations, and those operations all introduce error. And that  
2 error, I want to add, is not uniform across our population.  
3 Some groups will be enumerated well, other groups not.

4 Q. Dr. Salvo, what research have you relied on -- well,  
5 withdrawn.

6 What is your understanding of the relationship between  
7 nonresponse followup and accuracy?

8 A. Nonresponse followup through the operations we talked about  
9 will compromise accuracy. And lets use, for example, proxies.

10 OK. Proxy responses are not as good as self-responses.

11 Self-responses are kind of the king when it comes, the king of  
12 all modes of response. When people respond on their own,  
13 Census Bureaus research shows this, you get an abundance, very  
14 high level of correct enumeration.

15 Q. What, if any, Census Bureau research have you relied on for  
16 that conclusion?

17 A. I have relied on research from the 2010 census.

18 Q. I would like to call up Plaintiffs' Exhibit 267, which was  
19 introduced into evidence yesterday.

20 Dr. Salvo, are you familiar with this document?

21 A. Yes. Yes, I am.

22 Q. How so?

23 A. This was one of the documents that I used to draw my  
24 conclusions for my expert report.

25 Q. What is this document?

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1 A. This is a document that evaluates the 2010 census, what we  
2 call in demography coverage. The accuracy of the census,  
3 essentially.

4 Q. In the subject line it says 2010 census coverage  
5 measurement.

6 What does that mean?

7 A. It means that census coverage has two components to it.  
8 One component is the number of omissions, that is, the number  
9 of people who were not counted that should have been counted,  
10 and the number of people who were counted more than once, what  
11 we referred to as erroneous enumerations. Persons who had  
12 duplicate responses most frequently.

13 Q. Is the census coverage measurement the same thing as a post  
14 enumeration survey?

15 A. The post enumeration survey is utilized in order to  
16 determine coverage.

17 Q. I would like to turn to table 18.

18 Are you familiar with this table?

19 A. Very much so.

20 Q. Did you rely on this table as part of your evaluation?

21 A. Yes.

22 Q. What is the title of this table?

23 A. Components of census coverage by mail return date.

24 Q. The components of census coverage are the ones that you  
25 just described?



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1 A. Yes.

2 Q. Where does the data from this table come from?

3 A. This comes from the Census Bureau, from the Census Bureau's  
4 coverage measurement program.

5 Q. I would like you to help us define some of the terms here.

6 First, can you explain what correct enumerations is?

7 A. These are enumerations with the Census Bureau gets some  
8 minimal amount of information at the very least. Usually a  
9 few items are filled in on the questionnaire, giving them  
10 confidence that this is a real response.

11 Q. How does the concept of correct enumerations relate to the  
12 accuracy of the census count?

13 A. Well, one of the reasons I love this table is because you  
14 see the first column where it says valid returns. What it  
15 shows is that it almost doesn't matter when you send out  
16 your -- you send back your form. These are self-responses. We  
17 talk about valid returns.

18 That whole first tier there with those dates, these  
19 are people who self-responded. It doesn't matter when they  
20 did, because when you look at the correct enumeration column,  
21 look at the numbers, 97 percent correct.

22 Then you go to people who submitted in June or July,  
23 for some reason, I guess they found the form and they mailed it  
24 in, 97 percent of those are correct, correct enumerations. It  
25 is quite amazing. It goes to the power of self-response and

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1 why self-response is so important.

2 Under no valid return, we have essentially NRFU. OK. And  
3 you see there the response level drops to 89 percent correct.  
4 And then when you go all the way over to the right, we have  
5 something we call whole-person census imputations. These are  
6 situations where all the information for a person is  
7 manufactured through a statistical algorithm. You see how much  
8 higher it is than it is for people who self-respond.

9 THE COURT: Do you know what the difference is between  
10 the no valid return category and the not in mail return  
11 universe on the left column?

12 THE WITNESS: The not in mail return universe is a  
13 group of cases where the Census Bureau has to go out and do  
14 special operations. I would say remote Alaska is what people  
15 talk about, I guess. Let me state Upstate New York. There are  
16 operations in Upstate New York where the Census Bureau needs to  
17 go out physically and leave a questionnaire and ask people to  
18 mail it back.

19 In other words, these are not -- these are not  
20 mailable addresses. These are not places where you would mail  
21 the questionnaire, Judge.

22 THE COURT: All right. So the NRFU category is really  
23 the no valid return category, is that correct?

24 THE WITNESS: That's correct. 61 million. Yes,  
25 Judge.

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1 BY MR. SAINI:

2 Q. Can you explain to the court what conclusions you have  
3 drawn from this table?

4 A. That self-response is king. That if we get people to  
5 self-respond, even if it is late, we have essentially locked in  
6 a really accurate enumeration. And once we divorce ourselves  
7 from that, and as we divorce ourselves from that, we run big  
8 risks.

9 (Continued on next page)

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1 BY MR. SAINI:

2 Q. Why did you highlight the difference in rate of  
3 whole-person imputations in this chart?

4 A. I highlighted it because these are situations where, as I  
5 referred to it earlier, we use a statistical routine to  
6 manufacture data, and what I mean here is that we go to a model  
7 of people in the neighborhood who responded and we say, OK, let  
8 them represent the people who did not respond. And there's a  
9 real leap there.

10 THE COURT: And what's the basis for your opinion that  
11 that yields less accurate data with respect to either the whole  
12 count or the composition of count?

13 THE WITNESS: Judge, the whole-person census  
14 imputations you're referring to?

15 THE COURT: Yes.

16 THE WITNESS: Yeah. In survey research, it's  
17 interesting, the Census Bureau put this on their wish list last  
18 decade to try to look at the difference between people who  
19 respond and people who don't respond, and to my knowledge,  
20 there hasn't been any in-depth study done by the Census Bureau,  
21 but there is research in the survey research community which  
22 definitely shows that people who respond are different than  
23 people who fail to respond. It's in the survey literature, but  
24 again, not specifically in any Census Bureau document that I've  
25 been able to find.

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1 BY MR. SAINI:

2 Q. What, if anything, have you concluded about the impact of  
3 the citizenship question on the 2020 census from this chart?

4 A. I want to do everything I can, and as a scientist, to  
5 maximize self-response, however we can do it, because the  
6 payoff is really good.

7 Q. All right. I next want to point you to PX 562. Are you  
8 familiar with this document?

9 A. Yes.

10 Q. How so?

11 A. I used this document as part of my expert report.

12 Q. What is this document?

13 A. It's a report by the Department of Commerce, office of the  
14 inspector general, on the 2020 census, looking at the life  
15 cycle, current life cycle cost estimate associated with  
16 incomplete and underestimate -- I'm sorry, estimate, life cycle  
17 cost estimate being incomplete, underestimate -- I'm sorry.  
18 I'm getting tongue-tied.

19 The 2020 census, 2016 census test indicates the current  
20 life cycle cost estimate is incomplete and underestimates  
21 nonresponse follow-up costs.

22 Q. Who created this document?

23 A. It's created by the office of the inspector general of the  
24 U.S. Department of Commerce.

25 Q. Is this the type of report that a demographer such as

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1 yourself would rely on to arrive at their conclusions?

2 A. Demographers, yes, but local demographers, very, very much  
3 so.

4 MR. SAINI: Your Honor, I offer PX 562 into evidence.

5 THE COURT: Any objection?

6 MR. COYLE: No objection.

7 THE COURT: Admitted.

8 (Plaintiffs' Exhibit 562 received in evidence)

9 BY MR. SAINI:

10 Q. Dr. Salvo, can you explain what life cycle cost estimate  
11 means in the title?

12 A. What it means is the cost of the overall census program,  
13 this go-round.

14 Q. What section of this report did you rely on for your  
15 conclusions?

16 A. A --

17 Q. Why don't we just go there.

18 A. Yes. Please.

19 MR. SAINI: Can we turn to figure 1, on page 10.

20 A. Yes. I used figure 1 as, extreme interest to me, you see  
21 the title, "2010 census NRFU housing unit unresolved rates."  
22 These are cases that fall through. These are cases that you  
23 can't take care of. These are situations in test sites, the  
24 2014, '15 and '16 test sites, where the Census Bureau put their  
25 operations to the test.

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1 Q. Can you explain to the Court a little bit more what an  
2 unresolved rate is?

3 A. OK. After -- the two blue bars on the right are of great  
4 interest, and here's why. The 2014 and 2015, what are called  
5 the control panels, largely used information from the --  
6 largely used operations from the 2010 census. There are some  
7 differences, but they largely used the 2010 census. That means  
8 no administrative records. OK?

9 On the right, we have what are called the experimental  
10 panels, and in 2014 and 2015, they used administrative records.  
11 For example, they used -- they used the administrative records.

12 The bar on the left essentially says we're going to go out  
13 a number of times and we're going to keep looking, OK, we're  
14 going to keep trying to find out who is there. In the end, 7  
15 percent of the cases in the test remained unresolved after the  
16 bureau threw all of their operations at it. OK?

17 On the right, the experimental panels, they said: Well,  
18 wait a minute, we're going to use administrative records here;  
19 we're going to curve -- we're going to cut down that NRFU  
20 workload, and we're going to go in and we're going to use  
21 administrative records to determine vacancy. And lo and  
22 behold, 27 percent of the time, 27 percent of the cases in that  
23 test fell through; in other words, were remained unresolved  
24 after the administrative records were applied.

25 Again, from the national standpoint, the modeling that the

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1 Census Bureau has done is commendable. They -- I know these  
2 people; they've done some remarkable work. But when you start  
3 taking a look at some of the tests at the local-area level --  
4 in this case, we're talking about Maricopa, Harris, we're  
5 talking about Los Angeles -- you see this outcome, and it does  
6 not inspire confidence. The admin records to some people who  
7 engage in these modeling efforts may be efficient 60 to 70  
8 percent of the time, which sounds great, but once you start  
9 looking at that 30 percent -- in this case, the 27 percent --  
10 this is a group that would go to, essentially to statistical  
11 imputation. In other words, we'd have to manufacture the data  
12 for that 27 percent, and that is distressing. Talk about  
13 removing yourself from self-response.

14 Q. And what do you conclude from this figure about the impact  
15 of the changes planned for the 2020 census on census accuracy?

16 A. It calls into question the use of administrative records;  
17 calls into question the ability of administrative records to  
18 accurately portray what is there on the ground. It may reduce  
19 the NRFU workload, but what is the price you pay in accuracy  
20 ultimately, I ask.

21 Q. What, if any, conclusions have you drawn about the ability  
22 of the changes made to the 2020 census NRFU operation to  
23 correct decreases in self-response resulting from the  
24 citizenship question?

25 A. The citizenship question is going to swell the number of



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1 cases that are going to be subject to the use of administrative  
2 records, so -- and the administrative records, the applications  
3 of administrative records may be premature. There may be a  
4 point down the road where the next, the 2030 census we might be  
5 able to do something really good, but for 2020, the application  
6 may not be great, and I worry because you get an increased NRFU  
7 workload and now you use administrative records as a solution  
8 and you can't demonstrate that those admin records are  
9 producing what you think they're producing. So as a local  
10 demographer, it's very concerning, very fright -- actually,  
11 it's frightening.

12 Q. I next want to turn you to proxy responses and talk a  
13 little bit more about that. Just briefly, what is your  
14 understanding of the relationship between the use of proxies  
15 and census accuracy?

16 A. The Census Bureau's own research shows that proxy responses  
17 are no substitute for self-response.

18 Q. What research are you referring to?

19 A. A report that the Census Bureau has, the Census Bureau has  
20 created, which shows that the correct enumerations associated  
21 with proxy responses is far lower than correct enumerations  
22 associated with self-responses.

23 MR. SAINI: I'd like to pull back up Plaintiffs'  
24 Exhibit 267.

25 Q. This is the Mule study that you previously referred to, is

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1 that correct?

2 A. Yes.

3 MR. SAINI: And I would like to pull up table 21.

4 Q. Is this the table you're referring to?

5 A. Yes, it is.

6 Q. Can you explain to the Court what this table shows?

7 A. This table shows what we call -- again, from the previous  
8 table, it's similar -- the components of census covered by  
9 nonresponse follow-up field operation respondent type; in other  
10 words, pure and simple, how people respond.

11 On the left in the first column, you've got the total  
12 enumeration, household enumeration, 300 million people. And  
13 then you have the NRFU, NRFU cases where -- 61 million, where  
14 the household member responded; in other words, the household  
15 member was responsible for the submission. And then the next,  
16 the next line, you have those responses that were obtained via  
17 proxy, and that's the next line. And you see the 16 million  
18 there. OK? And you go to the right, one column to the right,  
19 and you see that correct enumerations, the percent correct  
20 enumerations for the household member is 93. The correct  
21 enumeration for proxy is 70 percent.

22 And then you go over to the far right and you look at  
23 situations where you had to manufacture data and you see the  
24 household member barely 2 percent. Almost a quarter of proxy  
25 responses had to be generated as a result of what we call

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1 whole-person census imputation. All the attributes had to be  
2 assigned from a statistical algorithm, so the percent of what  
3 we call correct enumerations by a proxy indicates that, yeah,  
4 we have to engage in this. I'm a realist. I know that the  
5 census is always going to have situations where you need to go  
6 to proxies. We know that, but you need to work and do your  
7 best to minimize those situations and not open the door to this  
8 kind of stuff. If you define the census in terms of proxy  
9 response, we have a serious compromise of data quality.

10 Q. Can you just explain a couple of terms here for me. You  
11 discuss a little bit about what household member means. Can  
12 you provide a little bit more of an explanation to the Court  
13 for that?

14 A. Yeah. This is when someone actually living in the  
15 household responds on behalf of the members of that household.  
16 The proxy, as we indicated earlier, is someone else, who is not  
17 a member of the household.

18 Also, I want to call your attention to the bottom row,  
19 not-in-NRFU field operation. OK? This is essentially people  
20 who responded, and -- on their own, and you see, look at that  
21 row, 97 percent correct, and you see it's actually -- if you  
22 can get a household member to respond to NRFU, you're doing  
23 pretty good. The problem is that the more resistant the  
24 population, the more -- population, the more fear that's out  
25 there, it gets generated for whatever reason, will cause people

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1 to resist, and then that's when you start going to neighbors;  
2 that's when you start talking to landlords, because people do  
3 not want to respond.

4 THE COURT: Can I ask a couple clarifications. First  
5 of all, the unknown respondent type, I take it that's just  
6 where the field operation data is provided by someone and we  
7 don't know whether it's a household member or a proxy, is that  
8 right?

9 THE WITNESS: Correct. It couldn't be determined for  
10 one reason or another.

11 THE COURT: And then the footnote indicates that the  
12 not-in-NRFU field operation includes not only the  
13 self-response, presumably, but also persons in another NRFU  
14 operation; do you know what that refers to?

15 THE WITNESS: Judge, I can't tell you precisely, but  
16 there are follow-up operations for the kinds of things that I  
17 described earlier, where a person has to go out from the  
18 get-go, in a rural area, for example, and then they have to go  
19 again. I'm sure it has something to do with special operations  
20 of one sort or another.

21 THE COURT: All right, but your understanding is that  
22 the not-in-NRFU field operation the vast bulk of that 222  
23 million is self-responding.

24 THE WITNESS: Yes, because they never entered the NRFU  
25 universe, and that should be the goal.

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1 BY MR. SAINI:

2 Q. What conclusions have you drawn about the impact of the  
3 citizenship question from this table?

4 A. If the citizenship question compromises self-response, then  
5 more cases will go into NRFU, and the greater workload --  
6 again, the larger number of cases and -- that will go into,  
7 into NRFU will translate into household members. You will get  
8 them in some cases, but you will also engage in proxy response  
9 to a greater degree, and that will compromise the number of  
10 correct enumerations and increase the amount of manufactured  
11 data that has to be incorporated in order to complete the  
12 census.

13 Q. How do you anticipate the citizenship question will relate  
14 to the distinction -- how do you anticipate the citizenship  
15 question will impact the distinction you made earlier between  
16 household members and proxies?

17 A. I would be naive to think that household members are going  
18 to be more likely to respond in a universe -- a universe -- in  
19 an environment, excuse me, where people feel put upon, people  
20 are afraid to respond. The resistance is likely to increase,  
21 and that does not bode well for that household member line.  
22 The idea of getting more household members to respond in NRFU  
23 is probably, it's probably a naive assumption. I would -- I  
24 believe that it is very likely that proxies will increase,  
25 again, because people do not -- are not going to want to, want

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1 to respond. And that usually does not bode well and usually  
2 means that proxies will increase.

3 Q. Stepping away from the table, what field experiences that  
4 you have had as the chief demographer of the city of New  
5 York -- well, withdrawn.

6 What is your understanding between the relationship between  
7 proxy respondents, using proxy respondents and undercounting,  
8 specifically?

9 A. As I mentioned before, the use of proxy respondents will  
10 involve all different -- well, different types of -- the Census  
11 Bureau's effort, especially in 2020, to reach the landlords is  
12 kind of a primary objective, to reach landlords. From my  
13 experience, on the ground, going out, in my multiple cycles of  
14 LUCA, doing field surveys to verify the veracity of our own  
15 data, we have encountered people, landlords -- it's not  
16 isolated cases -- that either do not want to talk to us or are  
17 reluctant to respond, because the units are hidden. I don't  
18 want to say it's a legal, not legal situation entirely. It's  
19 not, but certainly there are a number of units in the city that  
20 are technically illegal, and people do not want to respond.

21 Now, the thing that frightens me, though, even when you get  
22 the landlord to respond, landlord is not likely to overstate  
23 the case. They are going to understate the number of people,  
24 especially if there's overoccupancy involved. There is a lot  
25 of pressure on New York City's housing stock right now, and a

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1 lot of it is in immigrant neighborhoods, where people are  
2 living in overoccupied situations. And that is an  
3 on-the-ground fact. Your ability to capture that is going to  
4 be compromised with proxies. The way to get it is to convince  
5 those people in the basement that it's OK to respond, we got  
6 your back.

7 I'm speaking now for the city of New York, because when we  
8 went out, we indicated to people, we went out and did our  
9 research, we had a brochure with us in ten languages and we  
10 spoke to people and we said: We are the city of New York, and  
11 we got your back. We are going to help you stand up for who  
12 you are.

13 That's the solution. Proxies are a, in this case, a  
14 mediocre way of capturing data.

15 Q. Can you explain a little bit more about why landlords may  
16 be hesitant to accurately report the number of people in their  
17 households?

18 A. Because the households may be overoccupied -- I'm sorry.  
19 Their basements may be overoccupied. I'm talking now  
20 principally about small multiunit buildings which, by the way,  
21 is what the Census Bureau is pursuing now. They want to have a  
22 special effort with landlords, and they say it, in small  
23 multiunit buildings. This is precisely the situation that  
24 worries me most, because those people have a lot to lose. They  
25 may be paying their mortgage with illegal occupancy of a

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1 basement; they've got people in the basement, and they don't  
2 want anyone to know about it, maybe for tax reasons, there's a  
3 whole bunch -- maybe for compliance with city building codes.  
4 There's a whole bunch of reasons, but landlord proxies in New  
5 York are not a good source of information.

6 Q. What specific experiences with the city have led you to  
7 that conclusion?

8 A. I did a cycle -- OK. There's about four field operations  
9 that have led me to this. One was in the late '90s, where we  
10 went out and did a survey of housing units specifically in  
11 those neighborhoods with small multiunit buildings. Then there  
12 was another survey that we conducted with the Census Bureau in  
13 2003, 2004, in northwest Queens, where we explored what was  
14 going on in these buildings, where the Census Bureau was with  
15 us, and we spoke to people about it. And we would see the  
16 complexity of these housing units, upstairs, downstairs, level  
17 of occupancy. Another field study that we did leading up to  
18 the 2010 census, and then in '11 and '12, we worked with the  
19 Census Bureau to test their mettle, the mettle of their MAF, to  
20 see if their MAF was really good, as good as they thought it  
21 was, by going out into Queens and by looking at the MAF  
22 records. OK? And we signed a confidentiality agreement, and  
23 we looked at their MAF records and looked at what we saw, and  
24 we spoke to people, spoke to landlords and made a determination  
25 that it's very difficult in many cases to try to get people to



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1 tell us what was actually happening. We had to observe as a  
2 primary means.

3 Had we not done that, then we would have really serious  
4 shortfalls in the address list used in the census for the city.

5 Q. Just to clarify, when you say MAF --

6 A. I'm sorry.

7 Q. -- you mean master address file?

8 A. Master address file.

9 THE WITNESS: I've been very good with the jargon,  
10 right?

11 THE COURT: You have been.

12 So MAF, I take it?

13 THE WITNESS: Yes.

14 THE COURT: All right. Thank you.

15 THE WITNESS: Sorry.

16 BY MR. SAINI:

17 Q. Can you give an example of what types of observations  
18 you're referring to when you go out in the field to sort of  
19 verify the number of people in the household?

20 A. OK, I'll go to the 2003-2004 time point. We're near  
21 Astoria Boulevard, and we're walking a few blocks, and the  
22 Census Bureau geography people are there and they have their  
23 list. We walk up to a building, and in the building it was a  
24 combination of people from Central and South America, and we  
25 had, thankfully, at least two people with us who spoke Spanish

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1 and acted as interpreters for all of us. And we proceeded to  
2 ask them about the composition of their family. We didn't ask  
3 them about housing units. We said, Tell us about your family a  
4 little bit. We showed the IDs. We're from the U.S. Census  
5 Bureau, we're from the department of city planning. And we  
6 asked them about their composition of family, and then we got  
7 into the discussion of where do people live. And then we  
8 determined the small multiunit building actually had three  
9 units. There was an attic, there was a central unit and there  
10 was a basement, and we tried to figure out who lived where. It  
11 was really, really tough to try to figure that out. But we  
12 determined there were actually three units. The Census  
13 Bureau's list showed two. And our job that day was to inform  
14 the Census Bureau that there still were, despite the fact that  
15 we gave them so many units for the 2000 census, and we topped 8  
16 million, there were still units that were missing off their  
17 list.

18 So we went down this block and we engaged people to the  
19 greatest extent we could, you know, and we made these  
20 determinations based on what I would call the physical  
21 evidence. There's no way to quantify -- you know, the epitome  
22 of the double-blind study routine and all the things,  
23 experimental and quasi-experimental designs, that doesn't work  
24 here. This is on the ground. You've got to go and you've got  
25 to look, and obviously, the benefits of this come through in

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1 terms of our ability to make the master address file better.  
2 But that's an example of the kinds of things we do with the  
3 Census Bureau.

4 I keep saying with the Census Bureau because normally we  
5 don't engage unless people engage with us, if I go out just  
6 with my staff. When the Census Bureau's involved, we go full  
7 tilt, and this happened twice. I could go into some of the  
8 other research we've done heavily in Queens, because Queens is  
9 the place to go if you have an address issue. Very  
10 interesting.

11 Q. Can you explain some of that other research as it relates  
12 to proxy responses?

13 A. I can -- in that situation, someone did come forward and  
14 talk to us. OK? I don't remember exactly who she was, but she  
15 was willing to talk to us. If I were to engage this person as  
16 a proxy, this person would do very well, because they were a  
17 household member, whatever. But the key here is they own the  
18 whole house. They weren't living in a basement of a landlord.  
19 They were multiple families in this structure off of Astoria  
20 Boulevard. And if you get into a situation where you've got a  
21 landlord and people who are paying rent and may be frightened,  
22 because they know they're living illegally or they're illegal  
23 themselves, you get into that situation where you know that it  
24 may be very difficult to get the kind of access we got that  
25 day. OK?

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1           So I can't give you quantitative data because quantitative  
2 data on this kind of thing does not exist. It doesn't exist at  
3 the Census Bureau and it doesn't exist in practice. We have to  
4 go with our field studies and compile them. And by the way,  
5 some of this is documented in our -- the documentation that we  
6 submitted to the federal government in 2000 and 2010 to  
7 document our address list review process. It's actually in  
8 there, and that's cited in my expert report, so we actually  
9 have some of this in there.

10       Q. Have you made recommendations on the basis of these  
11 experiences to Census Bureau officials?

12       A. Well, the 2003-'4 effort and the '11-'12 was the result of  
13 our communication with the Census Bureau. In some ways, I want  
14 to say we're joined at the hip when we do this kind of stuff.  
15 We said: Guys, you have to modify your manuals; you can't just  
16 tell people, Go talk to a landlord. OK? So they did. They  
17 modified their manuals, and moreover, in the middle of last  
18 decade, we developed with them a manual. It is called the job  
19 aid. It's a -- gives the regional directors discretion when it  
20 comes to the identification of housing units; it's part of  
21 their training. So the answer is they've been responsive.  
22 They said yes, we'll go in and we'll help you and figure out  
23 how to label units and how to identify units, and we'll train  
24 our people to do that.

25       Q. What manuals did they revise on the basis of your

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1 recommendation?

2 A. We created something called -- I forget the exact number of  
3 it, but -- the number of the manual, but it's called the job  
4 aid, and its purpose is to help address listers find units and  
5 label them in a systematic way, and that was a product of a  
6 cooperative thing between us and the geography division of the  
7 Census Bureau.

8 Q. Are those manuals used by the Census Bureau for its  
9 enumerators during the census?

10 A. It's at the discretion of the regional director. In 2010,  
11 the regional director in New York did employ that, did use that  
12 manual.

13 Q. Is it your understanding that they're planning to use those  
14 manuals in 2020?

15 A. I have not communicated that -- I have not communicated  
16 enough with the regional director to make that determination  
17 right now, at this time.

18 Q. But what does the Census Bureau recommend in terms of proxy  
19 responses for 2020?

20 A. After the third interview, you search for a proxy, and by  
21 the way, we're going to have this special emphasis on landlords  
22 in small multifamily buildings.

23 Q. And what impact do you expect that to have on the quality  
24 of the data produced by a nonresponse follow-up operation?

25 A. I expect that the emphasis on landlords will compromise the

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1 data in NRFU. My plan is to work with the regional director,  
2 though, to, again, once again, get the modifications necessary  
3 so that their training does incorporate that fact, incorporate  
4 what I'm saying. But the thing that's of greatest interest is  
5 I want, I'm making a request of the regional director for me  
6 and my staff to help in actual training of some of the people  
7 that are going to go out and do enumeration.

8 Q. What is your understanding about the relationship -- based  
9 on what you've testified to today, what is your understanding  
10 about the relationship between the citizenship question and the  
11 use of proxies?

12 A. If self-response gets compromised, the use of proxies is  
13 going to increase, and that is problematic, and I -- very  
14 problematic. And I -- the best way to put it is, again, the  
15 increased NRFU, almost by definition, will increase the use of  
16 proxies, because I do not believe that administrative records  
17 are going to solve the problem to the extent that the bureau  
18 expects that they will.

19 Q. I want to next turn your attention to the bureau's process  
20 for identifying vacant housing. First, did you run an analysis  
21 of the process for identifying vacant housing in 2010 in New  
22 York City?

23 A. Yes.

24 Q. And how did you report your findings of that analysis?

25 A. When I got the census file in February of 2011, we took an

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1 immediate look at the data. The mayor wanted us to respond  
2 immediately and what the count was, and so on. The 2010 count  
3 came in a bit lower than expected, 8,175,133. We looked at the  
4 data, and we saw a 46 percent increase in vacant housing units  
5 in the city of New York. We said whoa. The housing unit  
6 increase, what's interesting, was what we expected, 170,000  
7 units between 2000 and 2010. So then we turned and we said:  
8 Wait a minute; they said there's 46 percent increase in the  
9 vacant housing units. I'm sure the real estate industry would  
10 want to know about that.

11 so I went ahead and we took a look, in the hours after we  
12 got the data, and a pattern appeared, a pattern that -- never  
13 forget my first reaction to it -- of concentrated increase in  
14 vacant housing units in some of the most vital neighborhoods of  
15 New York. So, I'll never forget it because I walked over to  
16 City Hall, and we had the mayor and we had a press conference  
17 at noon, and the pattern was just way out of line with anything  
18 we expected. So I went ahead. I arranged for a call between  
19 the mayor and director of the Census Bureau, and we engaged in  
20 an operation over the course of a year to figure out what  
21 happened.

22 Anyway, to get to the direct point of your question, we did  
23 do an analysis subsequent to that time, and that analysis -- we  
24 published the findings and, you know, about what we felt, what  
25 we demonstrated, I believe, was an erroneous increase in vacant

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1 housing units in the city of New York.

2 MR. SAINI: I'd like to call up Plaintiffs' Exhibit  
3 416.

4 Q. Are you familiar with this document?

5 A. Yes.

6 Q. Is this a document you were just, is this the published  
7 study that you were just referring to?

8 A. Yes.

9 Q. And are you the author of this document?

10 A. Coauthor, yes.

11 Q. Who is the other author?

12 A. Arun Peter Lobo.

13 Q. What is Arun Peter Lobo's designation?

14 A. He is the deputy director of the population division.

15 Q. What journal is this document published in?

16 A. Population Research and Policy Review.

17 Q. Is the Population Research and Policy Review a journal that  
18 is well respected among demographers?

19 A. Very much so.

20 Q. And was this article peer reviewed?

21 A. Yes.

22 Q. Does this article contain a map with Census Bureau data  
23 with vacancy rates in New York City that you relied on for your  
24 conclusions?

25 A. Yes.



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1 MR. SAINI: Let me turn to that map, figure 1.

2 Q. Are you familiar with this map?

3 A. Yes.

4 Q. How so?

5 A. This is a map that we created after we saw the 46 percent  
6 increase in vacant housing units in the city of New York.

7 Q. Where does the data from this map come from?

8 A. It comes from the Census Bureau's summary files, the data  
9 that gets produced, standard data that's fully in the published  
10 domain.

11 Q. So this data is publicly available?

12 A. Yes.

13 Q. And how did you use the data to create this map?

14 A. What we did is we examined the number of vacant housing  
15 units in 2000 and then we examined the number of vacant housing  
16 units in 2010 at what we call the census-track level. Those  
17 little geographic areas you see on the map are census tracks.  
18 There are 2,168 of them in New York City, and we created a map  
19 of the change in vacant housing, and you see in the legend the  
20 change expressed in various intervals.

21 MR. SAINI: Your Honor, I'd like to offer figure 1 of  
22 plaintiffs' 416, Plaintiffs' Exhibit 416 into evidence.

23 THE COURT: Is that pursuant to Rule 1006?

24 MR. SAINI: Yes.

25 THE COURT: Any objection?

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1 MR. COYLE: No objection.

2 THE COURT: Admitted.

3 And just to be clear, it's just the figure?

4 MR. SAINI: Just the figure, your Honor.

5 THE COURT: All right. It's admitted.

6 I think it would be potentially more helpful and avoid  
7 confusion if we label this a separate exhibit number itself.  
8 Is that doable?

9 MR. SAINI: Sure. We can label this as Plaintiffs'  
10 Exhibit 666. I believe that's the next exhibit number.

11 THE COURT: All right. Superstitions aside, it's  
12 admitted.

13 (Plaintiffs' Exhibit 666 received in evidence)

14 BY MR. SAINI:

15 Q. Dr. Salvo, could you, just generally speaking, explain to  
16 the Court what this map is showing?

17 A. The map is showing change in vacant housing units expressed  
18 as a percent, percent change, and you see in the legend the  
19 four intervals: less than 50 percent, 50 to 99, 100 to 300 and  
20 300 percent or more.

21 What it shows is that that 46 percent increase in vacant  
22 housing units reported for the city overall was concentrated in  
23 a number of neighborhoods in southern Brooklyn and northwest  
24 Queens. The southern Brooklyn corridor there contains some of  
25 the most vital neighborhoods in New York City. Starting, if

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1 you go from west to east, in the lower part of the map, you see  
2 that that's Bay Ridge, Dyker Heights, Bensonhurst, Bath Beach,  
3 Homecrest, Gravesend. These are neighborhoods that are  
4 hardly -- are not experiencing any form of abandonment.

5 Q. Just one second, Dr. Salvo. We can actually pull that up.  
6 You said southern Brooklyn?

7 A. Southern Brooklyn.

8 MR. SAINI: Can we pull up southern Brooklyn.

9 Q. Can you explain what the 2227 is in this picture?

10 A. It's the number of the local census office.

11 Q. And what does the dark red refer to?

12 A. Increases of 500 percent or more.

13 Q. OK.

14 A. The top interval, I forget. I think it's 500 percent --  
15 it's a lot.

16 Q. And the increase is between 2000 and 2010, is that correct?

17 A. Yes.

18 Q. What neighborhoods are shown here?

19 A. Left to right, it's Bay Ridge, Dyker Heights, Bensonhurst,  
20 Bath Beach, Homecrest, down into Gravesend and even some  
21 portions of Brighton Beach and Manhattan Beach. Sea Gate's  
22 even in here. That's at the tip there, which is west of Coney  
23 Island.

24 This increase, if you were to look at a map, you show a  
25 demographer this map, this reeks of abandonment. We're talking

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Salvo - Direct

1 about -- those tracks, if you take a look at any of those  
2 individual tracks and look at the absolute number of vacant  
3 housing units, we're talking about situations where, according  
4 to the Census Bureau, we had increases of several hundred  
5 vacant units in some of these places, something that working in  
6 the planning department I would definitely know about. We have  
7 housing experts in our department. This is a map, this is a  
8 map that you would see in the South Bronx in the 1970s. This  
9 is a map that is completely untenable.

10 I went ahead and did the research with my colleague because  
11 we wanted to codify this. We wanted to make sure that people  
12 knew about this, and the reason why is because we have to avoid  
13 this. We don't want this to happen again. And it's clear that  
14 something went really wrong here. And it's clear that if these  
15 people had responded, we had higher levels of self-response,  
16 maybe this wouldn't have happened. This is not a particularly  
17 low-response area, but this is something that can happen  
18 procedurally based on who's running the census office, based on  
19 the proclivity of the enumerators going out, your ability to  
20 hire good people. This is what you open the door to if  
21 self-response goes down.

22 MR. SAINI: Can we pull back for just a second and can  
23 we look up at northwest Queens, 2235.

24 Q. Can you name off the neighborhoods here that have what you  
25 would consider unusual rates of vacancy increases?

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Salvo - Direct

1 A. Yeah. The areas we're most concerned with, if you look at  
2 the area on the border of Brooklyn and Queens, that's Long  
3 Island City, and Long Island City had a lot of new  
4 construction, so that's not an area we were concerned about,  
5 because we expected to see, you know, increase in vacant units.  
6 But if you go up north, into Astoria, the Census Bureau said  
7 that Astoria, like, lost 12 percent of its population between  
8 2000 and 2010. Not the case, and it's a function of all these  
9 vacancies that we're seeing here.

10 If you go east, into Jackson Heights, the area behind  
11 LaGuardia Airport, East Elmhurst, down into pieces of Corona  
12 and pieces of Elmhurst -- again, vital neighborhoods, housing  
13 that is under tremendous pressure, all kinds of subdivision in  
14 these places. And by the way, the area that is not marked in  
15 here, not colored dark red, a lot of that area is mixed use,  
16 industrial/commercial, so it doesn't match the perimeter of the  
17 office the way it did in Brooklyn for that reason.

18 What's amazing here is that if I tell someone that Astoria,  
19 Queens, has vacancies levels of this rate, they'll run to the  
20 real estate agents, because the truth is it does not exist.  
21 This was manufactured as a result of an operation gone awry.

22 Q. Can you explain that a little bit? What do you mean by an  
23 operation that had gone awry?

24 A. I don't know, and the year of research that we did with the  
25 Census Bureau never revealed exactly what happened, except

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1 this. We know that a lot of the people who went out in  
2 nonresponse follow-up declared units vacant. OK? The  
3 follow-up, what we call the vacant delete check, over a third  
4 of the time in these general areas, the two were discrepant,  
5 the two reports were discrepant. In other words, one person  
6 goes out and says it's vacant; the other person says it's not  
7 vacant. How they resolve this, I don't know. How they  
8 resolved this probably produced this, this here, this  
9 configuration. So --

10 Q. Taking a step back for just a second --

11 A. Yes.

12 Q. -- can you explain in 2010, what the vacancy delete check  
13 process was in 2010?

14 A. Yeah. Someone goes out in nonresponse follow-up, and they,  
15 through the course of six visits, say there's nobody home here.  
16 OK? This unit, maybe after six they engage a proxy and the  
17 proxy says, no, there's nobody in that basement. The Census  
18 Bureau then takes that response and then they have an  
19 independent check of that in what's called a vacant delete  
20 check. They send somebody else out not to necessarily check  
21 but just to come up with an independent observation so they can  
22 compare the two, and there were a lot of situations where they  
23 were discrepant. It has to do with the small multifamily  
24 buildings in these two places. That's what we have concluded.

25 The housing is very complicated. There's a lot of

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1 additional units, a lot of basement units in these places that  
2 were for one reason or another not detected. There's also a  
3 possibility that we had someone at the managerial level who  
4 said, you know, if you go out four, five times and you  
5 determine it's vacant, maybe you should just call it a day.

6 I can't tell you which of those items is true because, as I  
7 said earlier, I can only go so far. I feel very fortunate to  
8 be able to do this analysis because the Census Bureau actually  
9 helped us. We cooperated, and because -- they don't want this  
10 to happen either, but it happens. And why does it happen?  
11 Because you open the door with NRFU. If these people, again,  
12 self-responded, we wouldn't have this.

13 So the lesson here is that you've got to be really careful  
14 when you start to rely on these operations, because census  
15 is -- I call the census an engineering marvel, and it is, but  
16 there are so many moving parts, the best way to get the data is  
17 right out of the gate from people themselves.

18 Q. Can you explain to the Court what you did to evaluate how,  
19 the inaccuracy of the information in this map?

20 A. We pulled together every and any data source that we could  
21 come up with, looking to see if there's any of this that made  
22 sense. And we're very lucky in New York City because we have  
23 something called the New York City housing and vacancy survey.  
24 It is a special survey that's conducted for New York City, as  
25 per state law, regarding rent control. And we fund this survey

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1 every three years and its specialty is vacancy; that is, the  
2 vacancy rate for the city and the boroughs that's supposed to  
3 drive decisions regarding rent control.

4 So we had that data, and we tried to see what that data  
5 told us. It did not tell us this story. We used other data  
6 too. We used some post office data, and we used data from  
7 what's referred to as *lis pendens*, or the data on foreclosures.  
8 Maybe there was a foreclosure issue here that we weren't aware  
9 of, but none of that panned out. It turns out that the only  
10 explanation for this is some sort of operational breakdown  
11 having to do with some mix of proxy respondents. And what's  
12 frightening here is that this cost us 65,000 people in our  
13 estimation.

14 Q. How did you come up with that number?

15 A. We looked at the New York City housing and vacancy survey  
16 data and made some assumptions based upon some of our knowledge  
17 of previous patterns of change in these neighborhoods and --  
18 but mostly we relied on New York City HVS data for this larger  
19 area to draw some conclusions or make some assumptions that  
20 would allow us to put people in these units.

21 THE COURT: And HVS is the housing and vacancy survey.

22 THE WITNESS: I'm sorry. The New York City housing  
23 and vacancy survey, yes.

24 Q. You mentioned that you cooperated with the Census Bureau to  
25 try to troubleshoot this issue. What do you mean by that?



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1 A. I mean Mayor Bloomberg asked the director of the Census  
2 Bureau if he would please look into this, and Bob Gross, the  
3 director of the Census Bureau, agreed, and over the course of  
4 the year we had several meetings. Officially, the results were  
5 inconclusive, but over the course of that year, I was able to  
6 obtain access to materials that I cited in my report that  
7 demonstrated this conflict at the local level between what one  
8 NRFU enumerator said and what the vacant delete check said.  
9 That's where I got that information.

10 Q. What information are you referring to?

11 A. Information about the discrepant reports on the status, the  
12 occupancy status, as we call it, vacant or occupied, of these  
13 units -- I mean, of these census tracks.

14 Q. What impact did this shortfall on the population in New  
15 York City in 2010 have on the services for New York City?

16 A. Well, the big one for us was when the health department --  
17 two big things. One, the health department came to us and said  
18 we have to calculate rates off of the decennial census, and  
19 according to this, Astoria's population's declined and we're  
20 troubled by the rates that were being generated, and city  
21 planning, demographers, helped us fix this. So what we did is  
22 we worked over a period of months and came up with adjusted  
23 figures for the neighborhoods in northwest Queens and southern  
24 Brooklyn that proved to be much more useful for the health  
25 department, because the original denominators could not be used

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Salvo - Direct

1 to evaluate disease incidence.

2 The other big thing is that the decennial census is the  
3 gold standard for population projections. We start with the  
4 decennial census by age and sex. And we are currently engaged  
5 in telling city agencies, and anyone else who will listen,  
6 about the aging of New York City's population. We're  
7 projecting a 46 percent increase in the number of persons 65  
8 and over by 2040. We are currently engaged in a project which  
9 attempts to identify the neighborhoods of the city that are  
10 going to age sooner, later, and so on. We can't use this  
11 original data to do those projections. I can't tell people in  
12 Astoria or in Dyker Heights -- I can't tell them what the  
13 projection's going to be, so again, we have to adjust our  
14 population in order to do good projections.

15 Now, why do we care about projections? Because there's  
16 this initiative called Age Friendly New York, where we're  
17 trying to design services, and we have to have infrastructure  
18 for these places. We have to know, where are we going to need  
19 the elevators? Where are we going to need the extra kinds of  
20 things, because about 38 percent of the population 65 and over  
21 has at least one disability. So the ramifications for city  
22 services are really important here, and we want to do a good  
23 job in our projections, but we can't use the data.

24 So we have had to adjust, on our own, adjust the data.  
25 Now, God forbid if this happened in more places. I don't know

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1 what we would do. We can't conduct our own census. We rely on  
2 the federal government to do that.

3 Q. What, if any, conclusions do you have about the  
4 relationship between the citizenship question and the  
5 identification of vacant housing in 2020?

6 A. Well, to begin with, the Census Bureau is going to use  
7 administrative records now for the determination of vacant  
8 housing, and I have not seen test data that convinces me that  
9 for small areas the generalizations that are being made for the  
10 nation are going to hold up. What I've seen in the test data  
11 is a lot of uncertainty, in my mind, about what is going to  
12 happen when you start using administrative records in some of  
13 these places given the research that the Census Bureau itself  
14 has conducted on administrative records.

15 Q. Do you anticipate the issues that arose in 2010 are -- how  
16 do you anticipate the issues that arose in 2010 -- how likely  
17 do you anticipate those issues to arise again in 2020?

18 A. I can't say definitively what will happen. These are new  
19 methods that the Census Bureau has come up with regarding admin  
20 records. What I'm saying is that I'm not comforted by what I'm  
21 seeing in the test data.

22 Test data should be definitive. It should help me  
23 understand that this really works, and I haven't seen anything  
24 that tells me that. And again, I'm not faulting the bureau.  
25 Their budget was really cut earlier in the decade and the tests

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Salvo - Direct

1 didn't happen. But the test data that does exist calls into  
2 question the efficacy of some of what they're planning on.

3 THE COURT: Can I interrupt for a second.

4 THE WITNESS: Yeah.

5 THE COURT: Are you taking any concrete steps as a  
6 result of those concerns to address them prophylactically? In  
7 other words, now are you making any plans to address these  
8 issues yourself, or are other city officials doing so?

9 THE WITNESS: We are responding wherever we can,  
10 usually through the mechanism of Federal Register notices, and  
11 through our address list review work to make sure that the  
12 master address file is complete.

13 The problem is, Judge, that this is an enumeration  
14 issue. This is something we can -- we're going to be out there  
15 telling people to please respond on your own. That should --  
16 our outreach effort should produce quality results in the sense  
17 that people will be responding on their own, hopefully at a  
18 high rate. But what worries me is this is an  
19 operation/enumeration issue, where we rely on the Census Bureau  
20 to do this. I don't know what matter of intervention -- at  
21 this point, we have responded to various Federal Register  
22 notices indicating that they need to train their enumerators to  
23 cope with this. That is probably the most significant avenue,  
24 Judge, that we're trying to -- I mentioned earlier, we want to  
25 help train the trainers. The people who are going to train the

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1 enumerators, we want to help them understand this problem. So  
2 we're going to be, hopefully, by the middle of next year  
3 working closely with the Census Bureau to make them aware of  
4 this, to help train people so that they do not, for example,  
5 prematurely label a unit as vacant, except that the ultimate,  
6 the ultimate determination -- the reason I hesitate is the  
7 ultimate determination of vacancies probably lies in the hands  
8 of the administrative records analysis, and that's really new.

9 THE COURT: You've mentioned a couple of times the  
10 increase in maximizing self-response is really the ideal. Is  
11 your office, or New York City, taking any steps to increase  
12 that percentage, through outreach or other means?

13 THE WITNESS: Judge, what I referred to earlier as  
14 creating the census office at City Hall and hiring a census  
15 director of outreach and the 13 local are census coordinators  
16 with a whole cadre of NYC service people, all of that is  
17 intended on doing just that.

18 THE COURT: Am I correct in assuming that similar  
19 efforts were made in past censuses, that the city has set up a  
20 similar operation?

21 THE WITNESS: Nowhere near the intensity of this one.

22 THE COURT: And why is that?

23 THE WITNESS: In the past, we have -- we've always had  
24 problems in the census. There's always been groups and people  
25 that have said, you know, that they're hesitant to respond.

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1 But those were isolated. Now we see a greater level of  
2 concern, a greater level of awareness about what the potential  
3 cost could be of a compromised level of self-response. And  
4 I -- a year ago, in September of '17, even before the  
5 announcement about the citizenship question, I started to push  
6 City Hall as much as I could, because the general  
7 environment -- even without the citizenship question, the  
8 general environment was already, in immigrant communities,  
9 souring, because we saw that in our field work. And now, with  
10 the introduction of citizenship question that, December and  
11 then officially in March of this year, it's exacerbated the  
12 whole thing. And so the city has to -- I think the powers that  
13 be amongst -- they are aware that we have to do something.

14 THE COURT: And has the city done anything in response  
15 to and since the announcement of the citizenship question; in  
16 other words, prompted by that specifically?

17 THE WITNESS: Judging from my participation in City  
18 Hall meetings, the answer's absolutely yes. We have had  
19 organizations come in, nonprofits come in, and they've been  
20 our, our network -- our linkages to the immigrant communities  
21 in the city. Our own office of immigrant affairs, we've all  
22 met, and we have meetings practically every other week now.  
23 But when the citizenship question was introduced, the level of  
24 concern was greatly heightened.

25 THE COURT: Has it changed either the outreach efforts

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Salvo - Direct

1 or the resources that are being devoted to those efforts?

2 THE WITNESS: Only in the sense that they've gotten  
3 more intense, and the number of people that have come forward,  
4 the number of organizations that have come forward has been  
5 really quite remarkable.

6 THE COURT: All right. Why don't we take our morning  
7 break now. It's 11:07. If the witness could be on the stand  
8 and everybody be ready to go at 11:17, that would be great.

9 Thank you very much.

10 (Recess)

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Salvo - Direct

1 THE COURT: One request to counsel. Since we are  
2 having a slight game of musical chairs with respect to who is  
3 doing what, if with each witness the counsel who will be either  
4 conducting the examination or lodging objections, if you could  
5 identify yourself and spell your name so that the court  
6 reporters have it, I think that would help everybody.

7 Now, with that, Dr. Salvo, you are still under oath  
8 and you may proceed.

9 BY MR. SAINI:

10 Q. Dr. Salvo, earlier you testified that the City of New York  
11 is allocating \$5.5 million for census outreach in 2020, is that  
12 correct?

13 A. Yes, that's correct.

14 Q. When was that budget allocation made?

15 A. The budget allocation was made earlier this year, and it  
16 was made in response to what is developing as an outreach plan  
17 for the city.

18 Q. What was your involvement in that outreach plan?

19 A. I was involved in the meetings that have been put together  
20 to get ideas on the best ways of approaching people in the  
21 neighborhoods of the city.

22 Q. What is your understanding of the role of the citizenship  
23 question in that budget allocation?

24 A. Subsequent to the notice from the Department of Justice,  
25 that they were going to ask for a citizenship question on the



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Salvo - Direct

1 census, even before the official March date, there was a very  
2 heightened concern about the impact on self-response.

3 THE COURT: Did it have an impact on the amount of  
4 money that was allocated to these efforts?

5 THE WITNESS: The money was allocated after the  
6 citizenship question was announced. I don't remember the  
7 precise date that the budget was approved, but it was approved  
8 earlier a year subsequent to when the announcement came that a  
9 citizenship question was requested to be on the 2020 census.

10 THE COURT: Your understanding or recollection is that  
11 the allocation was made sometime between the DOJ request and  
12 Secretary Ross' decision, is that correct?

13 THE WITNESS: Approximately.

14 THE COURT: OK.

15 BY MR. SAINI:

16 Q. Dr. Salvo, I want to now turn to the use of administrative  
17 records in the 2020 census.

18 What is your understanding about how the Census Bureau  
19 plans to use administrative records during the nonresponse  
20 followup procedures in 2020?

21 A. On the Census Bureau is going to deploy administrative  
22 records for two purposes. One, as I described earlier, make a  
23 determination about whether housing units are or are not vacant  
24 after the first visit. The second way they will be deployed  
25 is, as part of what I mentioned earlier, as a statistical model

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Salvo - Direct

1 to try to determine whether administrative records can be used  
2 to literally fill in the census questionnaire for people who  
3 fail to respond.

4 Q. Turning to the first way that you just described there,  
5 what kinds of administrative records is the Census Bureau  
6 planning to use for that purpose?

7 A. For the purposes of vacant determination -- can you repeat,  
8 please?

9 Q. Sure.

10 For the purposes of determining whether a household  
11 is vacant, what administrative records is the Census Bureau  
12 planning to use in 2020?

13 A. The Census Bureau is planning to use a variety of  
14 administrative records. Two big groups of administrative  
15 records are being employed, but the primary ones that involve  
16 the postal service data, data from IRS, data from Medicare,  
17 from the Social Security files, will all play a role in the  
18 determination of vacancies.

19 The idea is that you look to see whether there is an  
20 address in any of those records that matches the address that  
21 you are concerned about or that you are trying to determine  
22 occupancy status for.

23 Q. When you say postal service records, can you explain that a  
24 little bit more?

25 What specific records are you referring to?

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Salvo - Direct

1 A. The postal service has lists of addresses that they have  
2 not delivered mail to 30, 60, and 90 days, and that can be used  
3 as a way to determine whether a household is receiving mail and  
4 a potential indication that nobody is there.

5 Q. What, if anything, have you concluded about the accuracy of  
6 using these types of records to identify housing status?

7 A. I allude to a comment I made earlier, which is that in the  
8 Census Bureau's testing, they have really yet to show or  
9 inspire confidence that those records are going to result in  
10 accurate determinations, but I do -- I do want to say that I  
11 describe accuracy a little different, perhaps.

12 60 or 70 percent of satisfied people at the national level,  
13 but at the local level, it does not satisfy the requirements,  
14 especially when the administrative records with different  
15 populations are represented differently in those administrative  
16 records, that is actually a great concern of mine.

17 Q. OK. I want to deal with each of those points in turn, but  
18 first, can you tell us which census tests you are referring to?

19 A. Primarily, the tests that were conducted in Los Angeles  
20 County in 2016, as well as Harris County, Texas. Also, the  
21 2015 test in Maricopa County, Arizona.

22 Q. How were those tests designed to test out administrative  
23 records?

24 A. They all have a component in them. You know, the Census  
25 Bureau tests multiple things when it goes out and takes a big

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1 sample like this. I think the sample was 250,000 in those 2016  
2 test sites. My memory may fail me. It was around 250,000.  
3 That leaves something like 60,000 cases that go into NRFU for  
4 testing.

5 Then in NRFU, they apply the administrative records to  
6 see how well they work. The value of tests, that is, they are  
7 local. You're in Los Angeles County, and like I told New York,  
8 I said earlier, New York is a great test bid. LA is a great  
9 test bid too. It's got all the issues, and I rely on those  
10 tests to make judgments. Because, first of all, we don't have  
11 anything else. Because, again, we cannot do that testing here.  
12 And secondly, the whole purpose is to engage how well things  
13 work. So I look to those tests for guidance.

14 Q. When you say LA has all of the issues, what do you mean by  
15 that?

16 A. LA has a very big immigrant population. It has a mix of  
17 housing units. It has plenty of complex households. And they  
18 too, again, this is speculation on my part, admittedly, they  
19 too suffer from some of the issues that I have mentioned  
20 through this proceeding. One thing I am sure of is that they  
21 will too suffer in terms of their nonresponse, in terms of  
22 their lowered self-response.

23 Q. So how did these tests evaluate the accuracy of  
24 administrative records to identify housing units status?

25 A. What they do is, they actually deploy these in a

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1 nonresponse followup operation and look at the efficacy of  
2 these records in making a determination. But the great thing  
3 about these tests is that they make the determination first,  
4 and then go out and actually physically look to see if those  
5 records reflect what is on the ground, and that is gold.

6 20 percent of the time, as I mentioned earlier in both  
7 those sites, they missed. They said that there was nobody  
8 there and, indeed, there were people there. To a local  
9 demographer, that is really frightening because that is the  
10 thing you never want to happen, because once you declare a unit  
11 vacant, it is gone. There is -- there is no -- you're not  
12 going to be able to find people.

13 I mean, there is a possibility that some people might mail  
14 in a questionnaire from those vacant units, vacant units in  
15 quotes, but that is not very likely. We lose those households.

16 Q. When you say you lose those households, does that mean that  
17 there is no imputation done in those households?

18 A. What happens is that the household is declared to contain  
19 no people. So there is no need to do imputation. Imputation  
20 is not required because you have essentially said there aren't  
21 any people there.

22 Q. You referred to those two sites earlier.

23 What do you mean by those two sites?

24 A. Meaning Los Angeles and Harris County, Texas.

25 Q. You also earlier referred to administrative records

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1 determining housing as delete.

2 What does that mean?

3 A. It means that the administrative records indicate that  
4 there is not a housing unit at that address. It may be a  
5 commercial property, it may be a property that was, for one  
6 reason or another, torn down. In other words, the Census  
7 Bureau and the admin record says there is nothing there to  
8 enumerate. And then you go out and you find out a quarter of  
9 the time that, indeed, something is there. So that too is  
10 gives rise to consternation.

11 Q. When you say you go out, are you referring to the field  
12 survey portion of the test?

13 A. Yes. Yes, that is why the test was very valuable, because  
14 they did actual field survey work.

15 Q. OK. What do you anticipate the use of administrative  
16 records to identify housing units will have, the impact it will  
17 have on New York City?

18 A. I'll say it is very hard to tell what exactly is going to  
19 happen as these records get deployed, because this is all new.

20 I can go on what material I have to make a judgment. As a  
21 scientist, I gauge things empirically. So my hesitation over  
22 what happened in those tests carries the day to some degree,  
23 obviously.

24 So it is -- it is very difficult to figure this one out.  
25 But let me say this, we know from Census Bureau research that

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Salvo - Direct

1 the participation of different groups in that administrative  
2 records pool varies dramatically in some cases.

3 I'm jumping over to the other use of administrative  
4 records, which I don't want to do right now, but let me just  
5 say this. Groups are not equally represented in administrative  
6 records.

7 I'll leave it at that.

8 Q. So why don't we turn to that.

9 But before we do, you also mentioned earlier that you  
10 wouldn't be satisfied with 80 percent accuracy. Why is that?

11 A. Because 80 percent accuracy, given what I just said about  
12 the presence of administrative records and their relative  
13 absence, that 80 percent is not going to be equal across all  
14 populations. It will be 50 or 60 among some populations,  
15 meaning that neighborhoods in New York are going to be  
16 differentially hit by the problems that we see in those two  
17 test sites. I would expect that neighborhoods are going to  
18 have real differentials regarding their accuracy in the census.

19 Q. What is the basis for your conclusion on the differential  
20 impact of this issue?

21 A. Two pieces of research that the Census Bureau has done.  
22 One is I consider to be kind of a classic study. It was done  
23 back in 2012, and one of the authors was Amy O'Hara, one of the  
24 foremost authorities, I believe, on administrative records.  
25 And we refer to it as the match study.

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1           In that study, what we find out is that there are  
2 whole segments of the population that are not well represented  
3 in the administrative records. The differentials between  
4 Hispanic and non-Hispanics -- non-Hispanic whites and Hispanics  
5 is very large, and when you review the whole group of  
6 administrative records that the Census Bureau uses, beyond what  
7 they do with vacancies, beyond what they did in the  
8 determination of vacancies, where they actually fill in the  
9 questionnaire, so to speak, using administrative records. They  
10 use data, not only the federal sources outlined earlier, they  
11 use data from commercial sources -- Experian, Targus, financial  
12 datasets.

13           Those financial datasets have, as we say in demography,  
14 coverage, that means the representation of a population. For  
15 the black population, some of those datasets have coverage of  
16 50 percent or 60 percent. So if you try to use those records  
17 to determine the attributes of the black population, you're  
18 going to really fall short. But you'll cover the non-Hispanic  
19 white population really well. They are well represented in  
20 financial records.

21           So we have a situation here where differentials get  
22 created, and I would never assume that those totals, even from  
23 those places, those 80/20 totals, would be 80/20 across all the  
24 neighborhoods of the city.

25           I would assume -- not assume. I would say, based on



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1 the research, that the black neighborhoods of New York are  
2 going to have a real problem if administrative records are  
3 used. And why am I really worried? Because the black  
4 neighborhoods in New York City have the lowest self-response  
5 rates across the board, and that includes southeast Queens,  
6 central Brooklyn, areas of different socioeconomic level. And  
7 they are not represented in those admin records adequately, in  
8 my opinion.

9 So that is the kind of thing that we do. We have to  
10 drill -- we have to drill down and think about -- this is a  
11 good illustration of what I pointed to earlier, which is, you  
12 generalize for the nation or even for a whole test site. And  
13 then you say to yourself, what does that mean for New York?

14 Q. What other groups are under-represented in administrative  
15 records?

16 A. The Hispanic population and black population have the  
17 lowest level of representation. Even in the federal records,  
18 the differences aren't that large, not as large. It is  
19 90-something percent for the non-Hispanic white population.  
20 But for the Hispanic and black populations, it is like high  
21 80s, maybe around 90 percent. The big difference that occurs  
22 with the commercial databases, where the Hispanic and black  
23 populations are well under-represented.

24 Q. What, if anything, do you know about the representation of  
25 noncitizens in administrative records?

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1 A. Well, by definition, when you go and you look at the  
2 records that exist, a lot of the research speaks to the issue  
3 of people who are not affiliated, people who are on the  
4 margins, so to speak, socioeconomically. And from the  
5 standpoint of civic participation, from the standpoint of  
6 filing a tax return, from the standpoint of being picked up in  
7 these systems. By definition, the undocumented population is  
8 under the radar completely, so they are not going to be  
9 represented in any real way.

10 Immigrants, in general, the way they are represented  
11 is different than the general population based on -- based on  
12 their -- on the attributes that I have referred to.

13 Q. Can we turn to the second use of administrative records  
14 that you had mentioned earlier.

15 Can you explain what the second way that the Census  
16 Bureau is planning to use administrative records in the 2020  
17 census?

18 A. In an effort to curb the number of visits after the Census  
19 Bureau goes out three times, they start going out four and five  
20 times. They start exploring the use of administrative records  
21 to actually conduct an enumeration.

22 In other words, they have gotten some sort of idea that  
23 people are there and they are going to look up that address in  
24 their admin records. Without getting into too much into the  
25 weeds, they create these models, and these models tell them

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1 whether there is a higher likelihood or a lower likelihood that  
2 they can get away -- they can do this, all right, that this is  
3 actually going to work.

4 And depending on what those models tell them, they will go  
5 ahead and they will assign characteristics, including the  
6 number of people, including relationship, age, sex, and  
7 essentially complete the enumeration through admin records.

8 The research on this is largely national, a level -- it's  
9 largely looking at the nation overall. Again, coming up with  
10 estimates of how well this works or doesn't work. They have  
11 done some testing, but it has been very limited.

12 I am at a loss to tell you what that effect will be  
13 here, except to say that, again, we have one of the most  
14 complex populations on every dimension. Housing that's been  
15 occupied, the number of people in those units, the household  
16 living arrangements, the densities of population, you name it.

17 I would love for them to use New York as a test bit  
18 for some of this, but that is not possible. But my point that  
19 I know I keep going back to is, we shouldn't have to go there  
20 to any great degree. If we go there too much, we are going  
21 to -- we are going to have a problem, a real problem.

22 So, yes. Am I inspired by what the bureau predicting is  
23 doing? Yeah. I think the Bureau is really -- they are really  
24 trying to come up with something. Deploying them for 2020  
25 versus 2030, some other point in time, that is, I think, the

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1 seminal issue. They have made a decision to employ them for  
2 2020, and that decision might be premature. I would exercise  
3 caution -- if I were in a position, I would exercise caution  
4 for this census.

5 Q. What impact do you expect the use of administrative records  
6 for enumeration purposes -- withdrawn.

7 Who do you expect the census, the coverage issues that you  
8 referred to earlier to have on the use of administrative  
9 records for enumeration purposes?

10 A. What I expect is that in neighborhoods where they try to  
11 enumerate with admin records that are heavily black or  
12 Hispanic, they are not going to get the match rates that they  
13 are going to get in non-Hispanic white neighborhoods. That is  
14 going to put the neighborhoods, quote, minority neighborhoods  
15 of the city, at a distinct disadvantage if administrative  
16 records are applied in large number to the enumeration.

17 On the Hispanic front, in 2010, one of the great things  
18 that we look at for the city is that we got really good  
19 self-response in a number of Hispanic neighborhoods in the  
20 city. The local leadership was really strong. In the  
21 Dominican community, for example, we are now really worried  
22 because we have a lot to lose in those communities, given the  
23 citizenship question at issue.

24 What worries me the most is that in our meetings at city  
25 hall, we hear this from community leaders. I was in Boston

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1 with the mayor, and we were talking to community leaders. And  
2 you hear this and it is different from the past, so that is an  
3 important issue.

4 In the black community, we already have very low rates.  
5 OK. And as I mentioned earlier, those low rates crossed the  
6 socioeconomic lines. So we go out and we try to makeup for  
7 those low rates, which will likely, in the Afro-Caribbean  
8 community, immigrants, go lower. All of a sudden we are  
9 manufacturing data for neighborhoods to a level that we have  
10 never seen before, using data that, yeah, it's been tested, but  
11 as I indicated earlier, if I was at the helm, I would hold off  
12 and say, Guys, we've got to check this out. Do it. Do it.  
13 Make sure that this stuff is good.

14 I spend half my life trying to convince people at the  
15 national level that they have to look at the local level  
16 intensely before they deploy something, because nationally and  
17 locally are very, very different.

18 Q. So why are you concerned about the effect of the  
19 citizenship question in Hispanic neighborhoods in New York?

20 A. I'm concerned because, again, I am speaking now from  
21 evidence that I have gotten from community leaders about  
22 apprehension among their constituents, among the members of  
23 their organizations, among members of their churches, that  
24 people are afraid. They don't want to take the risk. Why risk  
25 it. And what worries me the most is I'm hearing this from

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1 leaders that have, in the past, produced really good results in  
2 terms of response.

3 So Washington Heights had a response rate that was among  
4 the highest in New York City in the 2010 census. It is heavily  
5 non-English speaking, heavily Dominican, heavily foreign-born,  
6 all that. But we managed to get through that barrier and reach  
7 people about the importance of getting counted.

8 Now all that is at risk. The indications are right now  
9 that we are going to have one heck of a job convincing people  
10 that it is OK, it is OK to answer. You know, New York City  
11 needs for you to answer.

12 So, anyway, I'm going on too much.

13 Q. So why did Washington Heights have such a high  
14 self-response rate in 2010?

15 A. I cannot tell you definitively, except to say that the  
16 community in Washington Heights was very active in census  
17 preparation, in census outreach, and in communicating to their  
18 leadership -- I'm sorry -- leadership communicating to the  
19 people in the neighborhoods. The leadership was convinced it  
20 was a good thing to do, and the locals, they convinced the  
21 locals it was a good thing to do. So we got -- we got a good  
22 response. But the flip side of that is, now we are in a  
23 position where a lot of that could disappear, and that really  
24 frightens me.

25 Q. What experiences have led you to conclude that a lot of

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1 that could disappear?

2 A. Meetings at city hall, meetings in Boston, meetings in a  
3 number of cities where I look at a community leader, and they  
4 are saying, What do I tell my people? Do I tell them, should  
5 they answer the citizenship question? What happens if they  
6 don't answer it? What road do we go down here? I am  
7 responsible to these people. What can I say?

8 That is what -- that is what we're facing. And I fear for  
9 this, because New York City gets its numbers, you know, and  
10 those numbers get used for all kinds of things. I'm on the  
11 inside when it comes to that. I always like to tell the  
12 communities that it is what is in the census that matters. I  
13 know you have a lot of people, you know, come to me and say,  
14 Come with me to mass on Sunday. I'll show you how many people  
15 we have. No, I can't do it that way. What is in the census,  
16 you need to answer. We drive that -- we drive that home  
17 because it is what is in the statistics that we use to do all  
18 kinds of things.

19 Q. Have you had to change any of your activities at the  
20 Department of Planning as a result of some of the issues that  
21 you have identified here?

22 A. Yeah. I have at least two jobs right now. I'm traveling a  
23 lot, communicating the need for outreach plans. I've been in  
24 Detroit and Boston lately trying to help them out. I am  
25 carrying the baton for city hall right now. City hall is

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1 putting together a staff, and you know what it is. I am the --  
2 how can I put this -- I am the institutional knowledge.

3 I do that, and then the address list work, and then  
4 the operation of my division and all the other things that we  
5 do, which I mentioned estimates, projections, helping other  
6 city agencies, and so on.

7 Q. How, if at all, has the Department of Planning changed its  
8 field surveying activities as a result of the community fears  
9 that you're discussing?

10 A. We have not conducted -- OK. All of our field work is with  
11 reference to the local update of census addresses program, what  
12 I call the address list review.

13 We just finished over two years of field work checking the  
14 Census Bureau's address list. OK. In the course of doing  
15 that, we run into people, and initially we had to pull back  
16 because people wanted to know if we were there to deport them.  
17 We pulled back. We created a brochure in ten languages, even  
18 though, my God, there are 100 languages in some portions of  
19 Queens. We created it in ten languages, and then we went out  
20 again, clearly stating in our materials that we are the City of  
21 New York and we need to count everyone in the city.

22 And we got that message across and that tamped it  
23 down. Until that time, I was worried about my staff going out  
24 because, again, mind you, a bunch of this field work took place  
25 before the announcement of the citizenship question.



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1 With the addition of this, you know, we have entered -- we  
2 have raised it to a new level of apprehension. So we already  
3 had a difficult job. Now it is harder.

4 Q. All right. I just want to wrap up on administrative  
5 records. We went a little far afield from there.

6 You talked about the two different uses of  
7 administrative records. What impact do you expect the  
8 citizenship question to have on the use of administrative  
9 records for the 2020 census?

10 A. Administrative records will likely have to be deployed to a  
11 much greater degree than -- well, I'm sorry. They have never  
12 been deployed before.

13 Administrative records will have to be deployed to a  
14 substantial degree because self-response is going to decline  
15 and we are going to have to manufacture data for groups of  
16 people that fail to respond. And those groups are more likely  
17 to be -- certainly, to be black, and I believe also it will  
18 affect the Hispanic community, again, because they are not  
19 present in whole chunks of the admin records to the degree that  
20 non-Hispanic whites are.

21 Q. What impact do you expect that to have on census accuracy?

22 A. It goes not only to the count -- I think that there is a  
23 count issue here. Once you start engaging in proxies, you  
24 start building households from administrative records to  
25 replace self-response, there is a certain degree of error,

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1 which I believe not even the Census Bureau can estimate right  
2 now. I know I can't, except to say that it is likely to be  
3 substantial, a degree of error.

4 I have already described the issues involved with  
5 proxies, especially given the emphasis on landlords in small  
6 buildings this time around. I am just very concerned that we  
7 are putting ourselves at risk, and what bothers me the most is  
8 we are putting ourselves especially at risk in this difficult  
9 climate with the addition of the citizenship question.

10 Q. So I next want to turn you to the last step in the  
11 nonresponse followup process, which is imputation, right?

12 A. Yes.

13 Q. What does imputation mean in the context of nonresponse  
14 followup?

15 A. If we get rid of all the scientific jargon and just say,  
16 you take what you know and you replace what you don't know with  
17 that. It's an oversimplification, but that is basically what  
18 it means.

19 Q. What impact, if any, is the addition of the citizenship  
20 question to have on imputation rates?

21 A. Imputation rates are likely to rise because 12 response  
22 will decline and because resistance to the enumeration is  
23 likely to increase.

24 Q. Do you have a conclusion about whether the use of  
25 imputation will impact the accuracy of the census?

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1 A. Yes.

2 Q. What is that conclusion?

3 A. The conclusion is it will affect not only the quality of  
4 the data, but the count, directly and indirectly.

5 Q. OK. So why don't we start with some basics.

6 Can you walk me through how whole household imputation  
7 works?

8 A. Sure.

9 The Census Bureau has a basement apartment and they know  
10 there are people in that basement. Again, just generally  
11 speaking, what they do is they'll go to what we would refer to  
12 as the nearest neighbor or people from the surrounding area,  
13 and they will use that data in a model that will assign  
14 characteristics to the people in that basement.

15 Now, that assignment may or may not involve the actual  
16 number of people in that basement.

17 Q. What is substitution?

18 A. Substitution is another way of referring to a situation  
19 where everyone in a household has their information  
20 manufactured as a result of imputation.

21 Q. So a substitution basically the same thing as whole  
22 household imputation?

23 A. Roughly.

24 Q. Is there a difference?

25 A. No, not really. There are some -- there are some

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1 subtleties involved. They're the same thing. Lets go there.

2 Q. When you refer to nearest neighbor, is that also referred  
3 to as donor households?

4 A. Yes.

5 Q. How is the nearest neighbor determined?

6 A. The Census Bureau has a model that they use where they  
7 would look at the geographic area and they would come up with a  
8 household, set of household characteristics that they feel  
9 based on, again, proximity will best match those people who are  
10 in the basement, or at least allow them to assume that somehow  
11 they are getting a count that is reasonable given who the  
12 neighbors are.

13 Q. What is the difference between -- what differences are  
14 there, if any, between the nearest neighbor and the households  
15 with missing data involved?

16 A. Missing data, when you talk about persons missing  
17 information, you can have imputation for a specific items. You  
18 know, for example, on age, age and self-response, and age in  
19 nonresponse followup, ultimately, people don't report it. Lets  
20 say, then you can impute a person's age specifically. What we  
21 are talking about now is when everybody's information has to be  
22 imputed in a household.

23 Q. Is there a difference between -- is there a demographic  
24 difference typically between the nearest neighbor and the  
25 household that is being imputed?

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1 A. I would like to use my map to demonstrate something.

2 Can I do that?

3 Q. Sure. We'll get to that in just a minute.

4 Before we get to that, I want you to sort of explain some  
5 other terms related to imputation.

6 A. Sure.

7 Q. Can we pull up Plaintiffs' Exhibit 410.

8 Are you familiar with this document?

9 A. Yes.

10 Q. How so?

11 A. This is a document that I used for my expert report.

12 Q. What is this document?

13 A. This is a document that looks at 2010 undercount of young  
14 children, which I would imagine many people know is one of the  
15 most undercounted groups in the census.

16 Q. Who created this document?

17 A. This comes out of the Census Bureau, the Decennial  
18 Statistics Studies Division.

19 MR. SAINI: I offer Plaintiffs' 410 into evidence.

20 THE COURT: Any objection?

21 MR. COYLE: No objection.

22 THE COURT: Admitted.

23 (Plaintiffs' Exhibit 410 received in evidence)

24 BY MR. SAINI:

25 Q. I would like to turn to table four.

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1 Are you familiar with this table?

2 A. Very much so.

3 Q. Did you rely on this table as part of your analysis?

4 A. Yep.

5 Q. What is the title of the table?

6 A. All person imputations by type, 2010 census.

7 Q. Can you define a couple of terms in here.

8 What does count imputation mean in this table?

9 A. This means that the Census Bureau has to not only impute or  
10 create data for all persons in the household, it's also got to  
11 create data for the number of persons in a household.

12 Q. What does count known mean?

13 A. It means that the enumerator, the enumerator that went out  
14 was able somehow to determine the number of people in a  
15 household, even though that enumerator has no characteristics  
16 information for that household.

17 Q. How typically is this done?

18 A. We see here roughly 81 percent of the time, according to  
19 the Census Bureau, that situation occurred where an enumerator  
20 somehow knew how many people were in the housing unit, but  
21 didn't know the characteristics of anyone in the household.

22 You see the top 5.99 million what we call whole person  
23 imputations. Two percent of the population, but 80 percent of  
24 the time they knew what the count was, even though they didn't  
25 know anything about the people in the household and had to

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1 impute all their attributes.

2 Q. How is the count determined for those households in the  
3 80 percent cohort that you're referring to?

4 A. We know by definition that when a person goes out and  
5 determines that there is somebody there, the only real source  
6 that could be used here would be a proxy.

7 Q. Why do you come to that conclusion?

8 A. Because when you get to this stage of the census, you're at  
9 a point where you know very little, if anything, about the unit  
10 you're trying to collect data from. So somehow, at this point,  
11 the enumerator figured out the only possible source would be a  
12 landlord or a neighbor that would say, oh, yeah, there are five  
13 people down there. The landlord says there is no one down  
14 there.

15 I have to tell you, I don't know exactly how that would  
16 happen. I don't have operational data that would tell me that.  
17 I believe the Census Bureau likely has codes for how this was  
18 determined, but that is not publicly available.

19 Q. What is the use of proxies to come up with this figure have  
20 on the accuracy of that figure, 80 percent, not 80 percent, I  
21 should say the count?

22 A. The 4,830,000?

23 Q. Yes.

24 A. OK. The Census Bureau accepts that as the count. OK. And  
25 I have serious -- again, this is based on my field work -- I

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1 have serious doubts that that count, frankly, is accurate. I  
2 don't know how you would garner that information when you know  
3 absolutely nothing about people who are there. I don't know  
4 how you would get that. All I know is that 81 percent of the  
5 time they claim to know the count and that adds to the argument  
6 that somehow this is accurate.

7 Q. What do you anticipate -- withdrawn.

8 All right. Why don't we take this -- we can put this away.

9 Based on your experience, what is the accuracy of  
10 substitution as a method for determining the characteristics of  
11 missing households in New York City?

12 A. I'm sorry. Repeat it again?

13 Q. Based on your experience, what is the accuracy of using  
14 substitution as a method for determining the characteristics of  
15 missing households in New York City?

16 A. It should be done minimally.

17 Q. Why do you come to that conclusion?

18 A. Because the assumptions in substitution are extreme, and  
19 they are especially extreme for the neighborhoods of New York.  
20 There is a homogeneity that is implied in the assignment of  
21 characteristics, which anyone who walks the blocks of New York  
22 City knows is not present in a whole bunch of neighborhoods.

23 Q. Can you explain that a little bit more?

24 A. Lets think about Bedford-Stuyvesant. Lets think about  
25 Prospect Heights in Brooklyn.



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1       When you walk block to block in those neighborhoods, the  
2       first thing you need to recognize is the presence of the black  
3       population, and then you need to ask yourself, the black  
4       population is not being enumerated well. OK.

5       So then you say, OK, we are going to engage in substitution  
6       for that population. We are going to use some of the neighbors  
7       to figure that out. That area has experienced a big change in  
8       the past 10 or 15 years. We have had young white non-family  
9       households moving in in large numbers. We have had orthodox  
10      Jewish population coming out of Williamsburg, moving into  
11      Bedford-Stuyvesant.

12      All of this mix, if you get self-response, you're going to  
13      get a beautiful picture of what that neighborhood is about,  
14      because all those pieces are going to be represented very, very  
15      well in the enumeration because people are answering on their  
16      own.

17      When you go to substitution, when you go to high levels of  
18      imputation, you cross these lines, and all of a sudden, you  
19      have homogeneity where it didn't exist. Why? Because you're  
20      using attributes in many cases as donors that don't fit the  
21      households that are missing.

22      Because the area is so mixed and there is so much  
23      heterogeneity. Heterogeneity never makes it to the data files,  
24      because the next-neighbor process won't allow that kind of  
25      heterogeneity. It is the model that is used to create this.

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1 Q. Have you run any analysis on these conclusions?

2 A. Yes, in the form of -- I can -- I can -- yes, I have looked  
3 at whole household substitution -- I'm sorry -- whole household  
4 imputation, or what we call substitution, for all the census  
5 tracks in New York City. And I have a --

6 Q. You have a map, right?

7 A. I have a map I would like to work from, please.

8 Q. Can we pull up PDX 22.

9 Is this the map that you're referring to?

10 A. Yes.

11 Q. Who created this map?

12 A. This map was created by me and my staff.

13 Q. When did you create this map?

14 A. This map was created late last year.

15 Q. What data did you use to create this map?

16 A. Publicly available census data from relationship file one  
17 of the 2010 census of the table number is noted below.

18 Q. Where does that data come from, again?

19 A. It comes from the 2010 decennial census, information from  
20 the Census Bureau that they make publicly available on the  
21 percent of the population, now population that is substituted  
22 or we could say imputed where everyone in the household is  
23 imputed.

24 Q. How did you use that data to produce this map?

25 A. We looked at the percent of persons by census tract

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1 throughout the city. The percent of the population by census  
2 tract that was substituted, with a reference point, our general  
3 reference point began with the earlier table, when we saw that  
4 6 million people nationwide were substituted and it was about  
5 two percent of the population.

6 So we wanted to see what that looked like in the city, and  
7 in the city, the first thing that hit us was that the average  
8 for the city is about three percent of the population. The  
9 average for Brooklyn is four percent of the population. And  
10 when you look at that legend and you see those categories, look  
11 at the darkest, two or three darkest categories and keep in  
12 mind that the national percentage is two percent. The  
13 percentage average for the city is three percent.

14 If you take a look at the three darkest brown  
15 categories and you focus in, what you see immediately is that  
16 certain neighborhoods in New York City have a lot of  
17 imputation.

18 Q. So I want to follow up on that.

19 MR. SAINI: But before I do, I want to move PDX 22  
20 into evidence as PX 667.

21 THE COURT: Any objection?

22 MR. COYLE: I had understood this was going to be a  
23 demonstrative only.

24 THE COURT: I think it is no longer.

25 MR. SAINI: It is a summation under 1006.

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1 MR. COYLE: No objection.

2 THE COURT: Admitted as 667.

3 (Plaintiffs' Exhibit 667 received in evidence)

4 MR. SAINI: OK.

5 BY MR. SAINI:

6 Q. All right. Dr. Salvo, lets turn back to the map.

7 So you were saying that there are certain neighborhoods  
8 that have high rates of imputation.

9 What neighborhoods are you referring to?

10 A. The ones in the circle in Brooklyn. That is Canarsie, East  
11 New York, and Brownsville, Brooklyn.

12 Those areas have extraordinarily high levels of  
13 substitution. Some of those census tracts, in some of those  
14 tracts, one out of every six people had manufactured data, data  
15 that was essentially generated from a computer imputation  
16 routine.

17 Now, if you do some quick population, you know,  
18 calculations here, it is upwards of -- it is well over a  
19 quarter of a million people affected here. The area is  
20 75 percent black. Self-response in this area was very low,  
21 hence we get all this imputation.

22 There is a heavy Afro-Caribbean population in this  
23 neighborhood, especially in Canarsie, the neighborhood to the  
24 south. This is a differential impact, which is huge.

25 The reference I made earlier to Bedford-Stuyvesant,

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1 portions of Prospect Heights, if you go up to the north and  
2 then you go west --

3 Q. A little bit further south. There you go.

4 A. -- you see this pattern that is heavily into  
5 Bedford-Stuyvesant, west into Prospect Heights, which is  
6 substantial.

7 The reason why I am highlighting this is because, what  
8 I said earlier, if you do substitution in the areas that are  
9 mentioned, Canarsie and Brownsville and East New York, and you  
10 use next-neighbor donors, for example, there is a couple of  
11 questions you need to ask yourself.

12 One is, are they getting the count right in those  
13 basements? A lot of the occupancy in Canarsie, we've explored  
14 in our field studies, is in small units where people recently  
15 occupied, have mortgages, and are subsidizing those mortgages  
16 with basement rentals. This area, as I said earlier, has very  
17 low self-response.

18 The Afro-Caribbean communities in here are big time.  
19 I really am frightened by the possibility that these people may  
20 become more apprehension to respond, in which case next time  
21 around, instead of having one out of every six people with  
22 manufactured data, we will have one out of every four people  
23 with manufactured -- by the way, there are some tracts in here  
24 where it does rise to 20 percent of the total population having  
25 data garnered in a statistical routine.

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1 Up north into Bedford-Stuyvesant, you see that kind of  
2 triangle there up north, that was the area I was illustrating  
3 or talking about earlier, where when you use -- this area has  
4 become so complex because of the presence of the orthodox white  
5 Jewish community and the black Afro-Caribbean, African-American  
6 community, which is kind of waning a bit and giving rise not  
7 only to increased presence of orthodox Jewish population, but  
8 also the influx of young white population.

9 There is a corridor. It is hard to define here  
10 exactly, but there is a corridor here where we have identified  
11 a movement from five percent non-Hispanic white to 25 percent  
12 non-Hispanic white in one decade.

13 Now, when you start messing with an imputation routine in  
14 this area, and, again, I want to give -- I want to give credit  
15 to the Census Bureau. They have to worry about Wyoming. I  
16 know that. They have to worry about Oklahoma. New York is a  
17 piece of what they do. This is all I do.

18 They are not going to ever spot this. They are not ever  
19 going to spot this problem. I am frightened about the  
20 possibility of what the imputation routines are producing in  
21 this neighborhood, you know, based on donor households, even  
22 with the controls, so to speak, that they exercise.

23 Q. Dr. Salvo, when you say you're concerned about the  
24 imputation routine they are going to use with donor households,  
25 can you explain why you're concerned about the use of donor

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1 households in Bed-Stuy, as you're pointing to right here?

2 A. I am concerned because the donor households may not  
3 represent the characteristics of the households that were  
4 missed, and the leap that is taking place, because of the  
5 heterogeneity of the area -- see, in the points farther south,  
6 like in Canarsie, which we are talking about 75 percent black,  
7 you know, maybe it is not -- maybe it is bad. I don't know.  
8 I do know that they are manufacturing the data.

9 When you get up into mixed neighborhoods where the model is  
10 drawing on people who respond, which we know are different than  
11 people who don't respond, the white non-Hispanic population in  
12 the nation is overcounted. OK. The black and Hispanic  
13 populations are undercounted. We know by definition these  
14 areas are going to have more omissions in black and Hispanic  
15 areas, black and Hispanic tracts, than we are going to have in  
16 white tracts.

17 So you start borrowing strengths, so to speak, from the  
18 white characteristics in ways that you may not even anticipate,  
19 producing an area that is not -- does not -- producing data for  
20 an area that does not demonstrate the richness that we know  
21 exists here.

22 Q. Quick clarification.

23 How do you know that those who do respond are  
24 different than those who don't respond?

25 A. What I am doing is I am extrapolating from the fact that

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1 nationwide we know that the block population is undercounted,  
2 that the Hispanic population is undercounted. I have no reason  
3 to believe that that is any different in the City of New York.

4 OK. I know through mail return rates that the level  
5 of self-response in the black community is especially low.  
6 That opens us up to this kind of stuff. That opens us up to  
7 these problems. I know it is low and, in general, I want to go  
8 back to the 1990 census, which was regarded as a failed census  
9 by many. New York City was undercounted over three percent.  
10 We lost 250,000 people in the 1990 census because the  
11 enumeration was not up to speed.

12 Q. So returning back to this map for just a moment.

13 A. Yes.

14 Q. How do these high imputation rates relate to the accuracy  
15 of the counts in these particular areas?

16 So lets focus on East New York. How did the high  
17 imputation rate in East New York relate to the accuracy of the  
18 count in East New York?

19 A. OK. Two things. One is there is an assumption here that  
20 they got the count right even though the number -- even though  
21 the attributes of the population are unknown. By definition,  
22 the attributes of the pop are unknown, somehow the enumerator  
23 managed to come up with it.

24 Q. That is the issue you referred to earlier about count known  
25 being relying on proxies, is that right?



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1 A. Yeah, relying on -- I don't know what else you would rely  
2 on here. We know those -- we know from Census Bureau's own  
3 work that the proxies are not nearly as good as household  
4 members in terms of response. Right.

5 Q. Then you mentioned there is a second thing you wanted to  
6 bring up?

7 A. Yeah. I'm sorry, I lost my train of thought.

8 Q. All right. Why don't I ask you again then.

9 Let me give you a different question. How does the high  
10 imputation rates in East New York relate to data quality in  
11 these neighborhoods?

12 A. We know by definition that we are manufacturing data for  
13 these households. OK. We are using an imputation routine to  
14 do that. There is error associated with that right out of the  
15 gate. OK.

16 But my point that I made early on in my testimony  
17 here is that it matters here what these -- how well these  
18 characteristics are portrayed because they identify key sub  
19 groups. For example, if we were going to do work with the  
20 health department in this area, it is not enough to know how  
21 many people there are. We need to know how many persons who  
22 are black and how many black children there are. OK. Those  
23 are attributes. Those are imputed attributes. The count  
24 doesn't do us much service.

25 In fact, the count is hardly -- even if the count were

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1 correct, which I don't believe it is, I believe that there are  
2 distortions in the counts just based on these methods. Again,  
3 knowing the neighborhoods of New York, 80 percent of the time  
4 you managed to figure out how many people are in the basement  
5 when you don't know anything about those people?

6 You rely on some sort of proxy that somehow is giving  
7 you a number so you can close out the case and end -- and  
8 essentially report back that it is finished?

9 That is very -- see how the quality of the count and the  
10 count itself, the quality of the data and the count itself are  
11 linked, inextricably linked, because total pop doesn't help us  
12 with a lot of what we do. When the black children here, we  
13 have to know how many there are. I mean, that is important to  
14 know that.

15 Q. Based on this map, what conclusions have you drawn about  
16 the impact of a citizenship question in 2020?

17 A. It is going to open the door to more of this.

18 Q. How is that?

19 A. It is going to increase the NRFU workload and especially in  
20 the black population where you don't have administrative record  
21 matches, especially in that situation, you're going to have  
22 cases falling through, so to speak, and ending up in this pot  
23 that has to be imputed. And the numbers may swell, and I don't  
24 want anyone to believe that somehow it is OK to have a count or  
25 to manufacture a count in the absence of good characteristics.

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1 That's the other thing. I know I repeated myself, but ...

2 Q. How do you anticipate that that will -- withdrawn.

3 Although do you anticipate that that will impact the  
4 overall accuracy of the census count in 2020?

5 A. It may very likely compromise it.

6 Q. In what direction?

7 A. Given what we know about response in the black community,  
8 mail return rates and overall rates of omissions, net  
9 undercount at the national level, the answer is undercount in  
10 these neighborhoods.

11 Q. Can we zoom out on this map?

12 Do you anticipate higher imputation rates in areas that  
13 were imputed at low rates in 2010 in 2020?

14 A. Can we zoom in on Washington Heights?

15 Look at Washington Heights.

16 Q. I think we might have --

17 THE COURT: You're testing the geography skills.

18 THE WITNESS: I'm sorry.

19 THE COURT: I know where it is, but ...

20 THE WITNESS: We're testing everybody's geographic.

21 I'm sorry, Judge. The northern portion of Manhattan.

22 THE COURT: I know that. I just don't know if the  
23 person controlling the screen knows that.

24 THE WITNESS: The northern portion of Manhattan.

25 This is such a great example. It's got every problem

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1 you can imagine from the standpoint of enumeration.

2 THE COURT: A little left. A little up.

3 THE WITNESS: Go east. No, no, no.

4 THE COURT: West. Go west.

5 THE WITNESS: East is my neighborhood. Occupational  
6 hazard.

7 A. If you look at Washington Heights. It is pristine from the  
8 standpoint of this metric. It is pristine because we got a  
9 really good response in 2010 in this place. I mean, people  
10 came out, so we didn't have to go this route. If the response  
11 was low, you probably would see the same configuration that  
12 you're seeing in other places.

13 It is -- we did an analysis of all the tracts in the  
14 city, and we asked ourselves, in those tracts that had high  
15 whole household imputation or substitution, high substitution  
16 rates, what were their attributes?

17 The one attribute -- two attributes stood out. One is  
18 46 percent black, way above the city average of 25 percent for  
19 all tracts. The other that stood out is small multi-family  
20 buildings, an abundance of small multi-family buildings.

21 Why? Because the proxy information is not going to be  
22 there because the landlords are going to resist, because there  
23 is going to be pushback based on those attributes. And on top  
24 of it, you've got now this issue that is exacerbating the whole  
25 thing.

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1 That is why I look at Washington Heights, and I'm happy,  
2 but I'm looking at Washington Heights and going -- we better  
3 really get going there, because we have a lot to lose.

4 So if I continue with this map, I'm afraid you guys won't  
5 have lunch.

6 Q. What efforts --

7 THE COURT: I'm sure you will have lunch.

8 THE WITNESS: OK.

9 Q. What efforts is the city planning to make for the 2020  
10 census to help ensure that there are not high rates of  
11 imputation in Washington Heights?

12 A. We are reaching out to the, in this case, leaders of the  
13 Dominican community and the leaders of our major immigrant  
14 advocate groups in the city. For one, the members of the  
15 New York immigration coalition, the New York counts 2020. A  
16 whole variety of people that know these communities well and  
17 know the community leaders well, because we have to start  
18 educating the community, we are starting already to educate the  
19 community leaders, because they are asking us, What do I say?  
20 That is where building this infrastructure that I described  
21 earlier becomes important.

22 Q. What activities to encourage self-response has the city  
23 taken on since the inclusion of the citizenship question?

24 A. The city has designated individuals on the Deputy Mayor  
25 Phil Thompson staff, and now the head of the city's initiative,

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1 the initiative, the government initiative that the city is the  
2 democracy initiative -- excuse me -- that the city has  
3 initiated, that person along with staff on Deputy Mayor  
4 Thompson's and Deputy Mayor Thompson's office are now working  
5 on building the coalitions that we are going to need in order  
6 to execute a plan.

7 Q. What role did this inclusion of a citizenship question play  
8 in the planning of those efforts?

9 A. It has heightened awareness about the difficulties that  
10 we're likely to face, number one. Number two, I very rarely  
11 can say something, I am happy to say something. I am happy to  
12 say that groups have come forward offering resources to the  
13 City of New York, foundations, nonprofits have come across and  
14 said, We want to. How do we do that? We're in the process of  
15 figuring out exactly how we are going to execute that plan.

16 Q. All right. I want to turn now to the ways that the Census  
17 Bureau measures accuracy.

18 What measures, if any, did the Census Bureau take after a  
19 census has been completed to assess the accuracy of a census?

20 A. The Census Bureau conducts a coverage evaluation using a  
21 post enumeration survey, which is a survey of blocks throughout  
22 the nation.

23 Q. How does that survey work?

24 A. OK. The Census Bureau identifies -- in 2010 and now again  
25 in 2020 -- about 10,000 blocks with about 500,000 households,

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1 that are then sub-sampled to the tune of about 180,000  
2 addresses, 180,000 households. And then what they do is they  
3 go out using a separate group of people and they list the  
4 addresses and they conduct what amounts to another enumeration,  
5 so to speak, checking people who might have moved. This is  
6 usually done right on the heels of the census, OK, and/or soon  
7 after the census. They use that sample to compare to the  
8 actual enumeration to come up with people who were missed.

9 Q. When is this sample done?

10 When is this survey done?

11 A. It is usually done near the summer, the summer after the  
12 enumeration.

13 Q. Is this the same thing as the coverage, the census coverage  
14 measurement?

15 A. Yeah. The Census Bureau, it was called census coverage  
16 measurement in 2010. It was called accuracy and coverage  
17 evaluation in 2000. They have a need to change names.

18 Q. Is there another measure called demographic analysis?

19 A. Yes.

20 Q. How does demographic analysis work?

21 A. You build a population from scratch using data on people  
22 who are born and people who died, and you move it forward and  
23 you build -- you look at how many people were born and died,  
24 and then you look at international migration. And you factor  
25 that in and you come up with a completely independent estimate

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1 of the nations population outside of any census. And the  
2 pitfall is that it is only available at the national level,  
3 because to do this for the states, there is this migration  
4 between states that just confound the method.

5 Q. What is your understanding as to why the Census Bureau  
6 conducts these assessments post census?

7 A. We want to know, the Census Bureau wants to know and we  
8 want to know about the quality of the data that is being  
9 produced in the enumeration.

10 Q. Going back to demographic analysis, how long has that been  
11 a measure used by the census?

12 A. Demographic analysis, you know, I don't know. I drew a  
13 blank on this. Demographic analysis has been used since 1950,  
14 I believe.

15 Q. What is your view as to whether demographic analysis can be  
16 used effectively to assess census count in New York City?

17 A. Well, it can't be used because it is only available at the  
18 national level. Again, because migration patterns confound the  
19 methodology that is used to use this.

20 Q. Can you explain that?

21 A. You looks at birth and you look at deaths nationwide and  
22 you create a current population based on birth and death  
23 records, and those records are pretty good. Right.

24 When you run into trouble is trying to figure out the  
25 impact of immigration, of international migration on these



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1 numbers. In other words, you can build a population of all the  
2 people who were born and all the people who died, and then at a  
3 certain time point, but there are people who leave the country  
4 and come in, and that can only be done nationally.

5 We have estimates of people who leave, and we know how  
6 many people who come in. You try to do that for a state and  
7 try to figure out all of the interstate patterns that exist,  
8 and it goes beyond the capability of the method.

9 Q. What about the post enumeration survey, can you use that to  
10 assess the accuracy of the census in New York City?

11 A. We can do it for New York City and for the rest of the five  
12 boroughs overall.

13 Q. What measurements does the post enumeration survey reveal  
14 for New York City and the five boroughs?

15 A. It gives us what we call net undercount, which is the  
16 balance of people who were missed and people who were counted  
17 more than once. Duplication.

18 Q. Are there any other measures that the most enumeration  
19 survey provides?

20 A. It gives us an idea of how those two components balance  
21 out. For New York City, the balance is here net zero, as it  
22 was for the nation in 2010.

23 Q. Those two components, what do mean by that?

24 A. Omissions and erroneous enumerations.

25 Q. Can you explain what omissions are?

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1 A. Those are people who are not counted and should have been  
2 counted.

3 Q. How is that calculated?

4 A. Omissions are calculated using a relatively simple model  
5 where you go to the post enumeration survey and you do that  
6 independent sample survey, and then you look back at the census  
7 to see how many people you got in that post enumeration survey  
8 that you got in the census, how many people were missed. So it  
9 gives you an idea of what omissions occurred.

10 Q. And erroneous enumerations, can you explain that concept?

11 A. In those same blocks that the post enumeration survey is  
12 conducted in, you go and you look and you take a sample in the  
13 census itself and you compare it to the census resulted, and  
14 you come up with the number of people who were counted more  
15 than once.

16 Q. Is that also known as duplication?

17 A. It is -- it is sometimes called that because the biggest  
18 share of erroneous enumerations comes about as a result of  
19 duplication.

20 Q. So can you explain how omissions and erroneous enumerations  
21 relate to the net undercount?

22 A. The balance of the two will reveal the overall net  
23 undercount or overcount of the population.

24 Q. Just to confirm -- well, withdrawn.

25 What level -- withdrawn.

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1 Does the Census Bureau provide omissions rates and  
2 erroneous enumeration rates at the city level?

3 A. OK. So places of 100,000 or more, the Census Bureau will  
4 give you an estimate of what we call net undercount. For  
5 places of 500,000 or more, which New York City, four out of  
6 five boroughs qualify, this will give you those two components.  
7 So you have some idea of what is manufactured, what is behind  
8 that net undercount.

9 Q. Just to summarize, what type of information is provided by  
10 the post enumeration survey for New York City?

11 A. We have the level of omissions, we have the percent of  
12 omissions, and the percent of erroneous enumerations for four  
13 of the five boroughs.

14 Q. What four boroughs are those?

15 A. Bronx, Brooklyn, Manhattan, and Queens.

16 Staten Island hasn't hit 500,000 yet. We don't get  
17 the numbers for Staten Island.

18 THE COURT: You get the net undercount?

19 THE WITNESS: Yes.

20 Q. I want to pull back up Plaintiffs' Exhibit 267.

21 Dr. Salvo, do you recognize this document?

22 A. Yes, I do.

23 Q. Is this the same document that you had referred to earlier  
24 or testified about earlier, the Mule document?

25 A. Yes.

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1 Q. Do you recognize the table seven on your screen?

2 A. Yes.

3 Q. Did you rely on this table for your conclusions that you're  
4 testifying about here?

5 A. Yes, yes.

6 Q. What years does this chart refer to?

7 A. It looks at 1990, 2000, and 2010 census years.

8 Q. Just to provide a little bit more information to us, what  
9 do the estimates refer to in the column heading?

10 A. It is an estimate of net undercount or roughly the balance  
11 between erroneous enumerations and omissions.

12 Q. What does the column standard error refer to?

13 A. It refers to the amount of error surrounding the estimate.

14 Q. And the asterisks?

15 A. Excuse me. Due to the fact that this is driven heavily by  
16 sample survey data, yes.

17 Q. Can you explain that concept a little bit more?

18 A. It is driven by a sample, and as a result, there is error  
19 surrounding the estimates.

20 Q. Then what are the asterisks referring to in the table?

21 A. The asterisk means that an estimate is statistically  
22 significant, meaning that it is statistically significant, as  
23 they put it in the footnote, from zero.

24 Q. What do the negative numbers refer to in the table?

25 A. Overcounts. In other words, the net balance indicates an

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1 overcount of a population.

2 Q. What do the positive numbers refer to?

3 A. Net undercount.

4 Q. Looking at the U.S. total, what was the net undercount in  
5 2010?

6 A. The net undercount was negligible for the U.S. In other  
7 words, it was not different from zero.

8 Q. What, if anything, can you conclude from that number about  
9 the accuracy of the census?

10 A. That the accuracy of the census is quite differential. OK.  
11 There are big differences by group that the black and the  
12 Hispanic populations experienced in 2010 an undercount and the  
13 non-Hispanic white population a relative overcount.

14 Q. What, if anything, can you conclude about the accuracy of  
15 the census in New York City from this table?

16 A. I have separate estimates for New York City and, indeed,  
17 the numbers for New York City show net zero overall undercount  
18 in 2010. Again, that is statistically significant from zero.

19 But I used this table to highlight an important fact,  
20 that that does not apply to the black and Hispanic populations  
21 of the nation. In this case, I do use this to generalize to  
22 the city, and the reason I do that is because when you look at  
23 the black populations of the city and Hispanic pop of the city,  
24 there is no reason to believe that the situation is better here  
25 than it is nationally from the standpoint of enumeration

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1 difficulty, from the standpoint of people wanting to be  
2 enumerated.

3 The sheer presence of the Afro-Caribbean population in New  
4 York is very unique. The mix of Hispanics in New York is  
5 probably without comparison nationwide. So I have every reason  
6 to believe that the undercount rates in non-Hispanic black and  
7 Hispanic areas in New York City are at least this high. At  
8 least this high.

9 Q. Can you explain the differential that you were referring to  
10 before between the different -- within the different racial  
11 groups?

12 A. Please predicting --

13 Q. Before you referred to a differential.

14 A. Oh.

15 Q. What does that mean?

16 A. It is the difference between black Hispanic and the overall  
17 number or black Hispanic and the non-Hispanic white population.

18 Q. What, if anything, does that differential tell you about  
19 the accuracy of the census at the local level?

20 A. It tells me that New York continues to experience  
21 differences by neighborhood in the accuracy of the census based  
22 upon the race and Hispanic composition of those neighborhoods.

23 Q. So I would like to ask you a few more questions about  
24 New York City's, the accuracy of the census in New York City in  
25 2010. For that, I would want to pull up PX 338.

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1 Are you familiar with this document?

2 A. Yes, I am.

3 Q. What is this document?

4 A. It is census coverage measurement, one of the reports in  
5 their series for 2010.

6 Q. How does this relate to the other report that we were just  
7 looking at?

8 A. This gives us an idea what the components of coverage look  
9 like. In other words, the two imports to the creation of net  
10 undercount.

11 Q. Did you rely on this document for your conclusions that  
12 you're testifying about here today?

13 A. Yes.

14 Q. Is this document a Census Bureau document?

15 A. Yes.

16 MR. SAINI: I would like to move PX 338 into evidence.

17 THE COURT: Any objection?

18 MR. COYLE: No objection.

19 THE COURT: It will be admitted.

20 (Plaintiffs' Exhibit 338 received in evidence)

21 BY MR. SAINI:

22 Q. All right. What did you use this report for, Dr. Salvo?

23 A. I used this report to get -- to make an assessment about  
24 differentials that exist by neighborhood or get a sense of what  
25 the differentials that exist by neighborhood are like when it

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1 comes to the measurement of how well the census -- how accurate  
2 the census was.

3 Q. Can we turn to table A-1 on page 39.

4 Do you recognize this table?

5 A. Yes, I do.

6 Q. What is the title of this table?

7 A. I have a banner in front of me.

8 Q. It's on mine.

9 A. I'm sorry.

10 Components of census coverage for counties with  
11 greater than 500,000 population.

12 Q. Does this table provide information about the four boroughs  
13 of New York, four of the five boroughs in New York City?

14 A. Yes, it does.

15 Q. Can you explain in this table what this table -- withdrawn.

16 Can you explain what information this table provides?

17 A. It gives us an idea of what of the level of erroneous  
18 enumerations and the level of omissions. That is what I would  
19 focus mostly on. It also provides us with information on how  
20 many enumerations were correct, which is similar to some of the  
21 earlier tables that we showed, as well as whole person  
22 imputations.

23 But I used this table specifically because I wanted to  
24 focus in on those two things that drive the net undercount,  
25 largely drive the net undercount calculation, omissions and



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1 erroneous enumeration.

2 Q. Can we pull up the information for New York.

3 What does this table show about the information for the  
4 four counties?

5 A. What it tells us is that the calculation of net undercount,  
6 if you take a look at the net undercount calculations overall,  
7 it will tell you that New York City, in each of the boroughs,  
8 did not experience a significant net -- significant net  
9 undercount or overcount.

10 In other words, the two factors that drive the calculation,  
11 erroneous enumerations and omissions, balanced each other out  
12 for the borough. OK. They balanced each other out for the  
13 boroughs, which essentially means that if you just simply look  
14 at the overall boroughs, you would conclude that there really  
15 wasn't a significant undercount.

16 Q. One second.

17 Dr. Salvo, I know you created a chart based on this  
18 information. Can we pull up that chart?

19 It is PDX 20, I believe. PDX 20.

20 A. Yeah. This is, I think, a lot easier to see.

21 You see in the four -- I'm sorry. Go ahead.

22 Q. Can you explain, did you create this chart?

23 A. Yes.

24 Q. And what data did you use to create this chart?

25 A. The data that we just showed from the census borough's

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1 coverage series.

2 Q. Where did you get the data for Staten Island in this chart?

3 A. The data from Staten Island were obtained from the general  
4 numbers that are provided overall of a net undercount without  
5 the components. In other words, we have -- there is a table  
6 that just gives you net undercount that we can pull these  
7 numbers from.

8 Q. OK. So can we take a look at one of the boroughs. Lets  
9 take a look at Brooklyn.

10 What from this table did you draw -- what conclusions  
11 did you draw about the omissions rate in Brooklyn?

12 A. OK. The omissions rate, you see a 10 percent, and then you  
13 see the erroneous enamorations level at 8.4 percent. In other  
14 words, we had an overcount of 8.4 percent and undercount of  
15 over 10 percent.

16 So what that tells you is that the 2.61 there is largely a  
17 product of offsetting differences. OK. That is -- I'm sorry,  
18 not offsetting differences -- of offsetting forces. One being  
19 omissions and the other being erroneous enamorations. They  
20 cancel each other out, in other words.

21 The point I want to make, though, is that canceling  
22 happened at the borough level. It does not happen at the  
23 neighborhood level. If you go into those neighborhoods I  
24 showed you before in East New York and Canarsie, you are going  
25 to have a heavily black population. We saw the national data.

IB6sNYS3

Salvo - Direct

1 It shows us there are a lot of -- there is a net -- net  
2 undercount of blacks in the country.

3 When you go to that neighborhood, it would be foolish for  
4 us to assume that somehow these forces are acting to cancel  
5 each other out. What we have in Brooklyn are neighborhoods  
6 which experienced undercounts and other areas that experienced  
7 overcounts. That is related to the racial composition of those  
8 neighborhoods.

9 The bottom line is, these two forces may cancel each other  
10 out at the borough level, but the odds are -- excuse me -- it  
11 is very likely that they are not doing that at the neighborhood  
12 level, which means neighborhood by neighborhood, we have pretty  
13 different levels of coverage.

14 (Continued on next page)

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Ib6Wnys4

Salvo - Direct

1 BY MR. SAINI:

2 Q. I have a few questions there, but first, can you explain to  
3 us why if omissions and erroneous enumerations cancel each  
4 other out, why there is a net overcount in Brooklyn?

5 A. Well, that number, that 2.61, is not statistically  
6 significant. It's not a meaningful number, essentially. You  
7 could consider that zero.

8 Q. OK.

9 A. Because the sample size, it's a bunch of things, but that's  
10 essentially zero.

11 Q. So where in Brooklyn are the 10.4 percent of omissions  
12 occurring?

13 A. Judging from what we know about rates of undercount for the  
14 country by race and Hispanic origin is going to occur most  
15 heavily in the black communities of Brooklyn followed by areas  
16 with large clusters of Hispanic population.

17 Q. And where is the 8.4 percent of erroneous enumerations  
18 occurring?

19 A. Likely in the non-Hispanic white areas, the areas, again,  
20 that tend to show net overcounts.

21 I should also say that the white areas, at least up until  
22 recently, have tended to be older in which case older persons  
23 are typically overcounted in the decennial census.

24 Q. What data are you using to support that conclusion?

25 A. Data that is contained in these reports, which I have not

Ib6Wnys4

Salvo - Direct

1 included here, but data which is included in these reports that  
2 show undercount by age.

3 Q. How do the national undercount rates that we looked at just  
4 a moment ago influence your analysis here?

5 A. Based upon what I know about the characteristics of the  
6 black population in New York and what I know about the nation  
7 and the level of undercount in the black population, I've  
8 concluded that the numbers that we see in that national table  
9 should be largely reflected in New York City's neighborhoods.

10 Q. Can you explain what the impact of omissions is on census  
11 accuracy?

12 A. Omissions are one component of accuracy. Counting people  
13 twice is also a problem in the census and affects accuracy.  
14 But omissions is especially serious, and here's why.

15 The Census Bureau, after the fact, can fix erroneous, the  
16 Census Bureau can fix situations where they have duplicates.  
17 They can go and look at their operational data and figure out  
18 how to deduplicate, how to remove duplicates. It's procedural.  
19 OK? The estimate of omissions is obtained arithmetically.  
20 It's not something you can go by because you don't have those  
21 people in your hand. You have the duplicates in your hand.  
22 You have the people who have answered twice, three times,  
23 whatever. You can remove that element. It's procedural.

24 You can't analyze omissions because there are unknown by  
25 definition. Right? You don't have them in your hand, so to

Ib6Wnys4

Salvo - Direct

1 speak. So it makes this analysis a little difficult along  
2 these samples, yes.

3 Q. When you say they're unknown by definition, what do you  
4 mean?

5 A. What I mean is that they haven't been counted and you don't  
6 know who they are. OK? There's no way you can resurrect them  
7 and figure that out. You can do that, though, with people who  
8 have been counted more than once.

9 Q. What, if any, impact is there on census accuracy of these  
10 omissions occurring in different communities than erroneous  
11 enumerations?

12 A. It means you have, in what we call demography, differential  
13 coverage. You have differences in the degree to which census  
14 counts by race and Hispanic origin are accurate in this case --  
15 excuse me. Let me say the degree to which the census counts  
16 and -- are accurate neighborhood by neighborhood, you have  
17 differentials that can be very substantial.

18 Q. And what do you mean by substantial?

19 A. What I mean is you can have, in some areas of the city,  
20 either -- or you have no omissions, you could have overcounts,  
21 and in other areas of the city, again, primarily in the black  
22 neighborhoods of the city, you will have high levels of  
23 omissions and net undercounts, side by side, frequently.

24 Q. What impacts can that have on city services?

25 A. It means that in some neighborhoods trying to establish

Ib6Wnys4

Salvo - Direct

1 needs -- I put forth the example of black children that might  
2 be in need of health services. The health department  
3 frequently -- they have these health centers throughout the  
4 city, and they look at the populations around those health  
5 centers trying to determine how many kids need a particular  
6 service. And we give them those estimates. And if we give  
7 them those estimates and those estimates have a significant  
8 component of undercount in them, then, in effect, we're  
9 shortchanging the number, and what that ends up doing is it  
10 means that they may not pay attention to a particular  
11 neighborhood that they need to pay attention to.

12 It's always a matter of distributing resources and figuring  
13 out where to go first, and we're asked a lot about: We have a  
14 budget; this is the budget. What do we do? Where do we go?  
15 Show us, Salvo. Where do you think we should put our resources  
16 first?

17 And we deal with that a lot. So I don't want to be in a  
18 situation where I have data that's been severely compromised  
19 and I start to second-guess the numbers I'm working with.

20 There's only so much you can do with that, in that situation.

21 Q. What, if any, impact is there on redistricting that you're  
22 aware of?

23 A. This is a favorite question of mine. There are parts of  
24 the city where the districts are clearly too big and there are  
25 parts of the city where the districts are too small. We have

Ib6Wnys4

Salvo - Direct

1 situations, I'm thinking of that central Brooklyn area where  
2 you have a lot of cross-cutting congressional district lines,  
3 where the districts are being drawn not based on who's there,  
4 in reality, but based on the estimates from the census. And  
5 those estimates are small, so you make the district this much  
6 wider, because to capture enough people, you need to do that.

7       Conversely, in parts of Staten Island or places where there  
8 are likely overcounts, you have a district, actually, that's  
9 been drawn in a different way, a district that should actually  
10 be, you know, small. And you know, in effect, you would look  
11 at a district that has overcounts that maybe should be this  
12 small and instead it's bigger than it should be. So the  
13 drawing of districts is actually pretty important when it comes  
14 to the coverage, especially when things get evaluated by race  
15 and Hispanic origin, as they do for all kinds of purposes. We  
16 know that you have differential, as I mentioned earlier, the  
17 phrase "differential coverage by race," so if you're trying to  
18 make decisions on how to draw the lines and you've got race and  
19 Hispanic origin factoring into that decision, you'd better be  
20 cognizant of these problems.

21 Q. What impact do you anticipate the citizenship question to  
22 have on omission rates in the 2020 census?

23 A. Any action that increases the NRFU workload is likely to  
24 increase the number of situations -- I'm sorry. I want to  
25 rephrase that.



Ib6Wnys4

Salvo - Direct

1 Any situation you have which increases the anxiety in  
2 people about responding, thereby increasing the NRFU workload,  
3 that flows through the operations. OK? And there's something  
4 in demography, funny statistics. It's called "correlation  
5 bias," it's a fancy phrase for the fact that people who answer  
6 in the census may be equally reluctant to answer in the  
7 postenumeration survey. The same principle applies here, where  
8 the person who's not going to answer, not going to  
9 self-respond, the enumerator knocks on the door, and they say,  
10 No, go away, the resistance down the road. And then what you  
11 end up with, in the end, is a person who falls completely  
12 through and then who doesn't get picked up for one reason or  
13 another. So the logical conclusion is that you're going to end  
14 up with more of that because of the reluctance on the part of  
15 the people to respond. So it goes beyond the NRFU workload  
16 issue. It goes to the heart of people deciding they weren't  
17 going to stand up and be counted.

18 THE COURT: You call that the correlation bias?

19 THE WITNESS: Correlation bias refers to, it's a  
20 statistical term for the fact that people in the census who  
21 were apprehensive are equally apprehensive to respond in the  
22 postenumeration survey. There are corrections that  
23 statisticians have for that, but it's always been around. It's  
24 something that people always discuss as a potential limiting  
25 factor in evaluating accuracy in the census.

Ib6Wnys4

Salvo - Direct

1 THE COURT: Is it specific to the census?

2 THE WITNESS: Actually, actually, you know, that's a  
3 really good question. Judge, I have to think about that one,  
4 because the methods that are used in coverage of the population  
5 are used in, among animal populations, a famous one being among  
6 fish. How do you determine how many fish there are in a pond?  
7 There are -- it applies to that, but I'm thinking about fish  
8 are not equally reluctant to respond, so it might be, it might  
9 be -- yeah. Actually --

10 THE COURT: That took a turn I wasn't expecting.

11 THE WITNESS: Yeah. No. What I'm thinking about now  
12 is that it actually probably is specific to human populations.

13 Geez, it's being recorded, in court, huh? OK.

14 THE COURT: Yes, the whole fish digression has been  
15 recorded.

16 Is there literature that demonstrates the existence of  
17 a correlation bias in the census; that is, that people who are  
18 less likely to self-respond are also less likely to respond to  
19 NRFU?

20 THE WITNESS: There is a whole literature, a big  
21 literature, and a literature, I might add, on how to try to  
22 correct for that problem. The Census Bureau's employed methods  
23 now that, where they're trying to correct for that.

24 THE COURT: And are you familiar with how successful  
25 those corrections have been?

Ib6Wnys4

Salvo - Direct

1 THE WITNESS: I have not reviewed that material to a  
2 point where I can make a confident statement.

3 MR. SAINI: Can we pull up PDX 20 again.

4 Q. What is the level of uncertainty in the rates that you have  
5 depicted here?

6 A. There is uncertainty surrounding these rates. It is  
7 several percentage points of error on each one of these  
8 columns. The reason I still use the data, even though there  
9 are, again, errors associated with these numbers, because  
10 again, they're taken from a sample -- a process that uses a  
11 sample and not a whole universe; I use it because these two  
12 limitations, these two errors -- one being on the high side and  
13 one being on the low side -- occur in different places.  
14 That's -- the reason this is in here is because I'm linking  
15 this, with the information that we know about, undercount on  
16 race and ethnic populations, and I'm linking this with  
17 knowledge of the distribution of groups in New York City and  
18 its neighborhoods. So despite the fact that there are several  
19 percentage point errors around those, the blue and the orange,  
20 columns, my argument is they're not occurring in the same  
21 places, and for that reason, I think this is important  
22 information, and important information that the Census Bureau  
23 has provided to us, I might add.

24 Q. What other information outside the Census Bureau is  
25 available relating to census accuracy?

Ib6Wnys4

Salvo - Direct

1 A. The answer is the Census Bureau is the only entity in a  
2 position to tell us how accurate their data are from a  
3 standpoint of what I would consider to be real empirical  
4 calculations. We -- as it is, to get this chart, we had to dig  
5 to get some of this. I know we showed the report earlier, but  
6 there's other -- you know, there are -- a lot of people are not  
7 aware of this, that this even exists. The fact is this, that  
8 the Census Bureau has the operational data to draw these, to  
9 draw this chart for us. In New York City, we don't have that.  
10 I have the output from what they're producing. I have their  
11 studies. OK? But I do not have the operational data behind a  
12 lot of this. They are uniquely in a position to provide it.  
13 Other entities are not.

14 MR. SAINI: Your Honor, would it make sense to break  
15 for lunch?

16 THE COURT: How much longer do you think you have on  
17 direct?

18 MR. SAINI: Probably about 15 to 20 minutes.

19 THE COURT: All right. Let's do five more and then  
20 we'll break for lunch.

21 MR. SAINI: Sounds good.

22 THE COURT: All right.

23 BY MR. SAINI:

24 Q. Dr. Salvo, I want to take you back for a moment to what you  
25 said about administrative records. Can you remind me, what are

Ib6Wnys4

Salvo - Direct

1 some of the issues with using administrative records to  
2 enumerate the population?

3 A. The biggest concern for me is the fact that there are  
4 pretty substantial differences by race in terms of  
5 representation in the administrative records being used by the  
6 Census Bureau.

7 Q. Are you aware that the Census Bureau proposed using  
8 administrative records to calculate citizenship data?

9 A. Yes, I am aware of that. I believe I read that in John  
10 Abowd's expert report.

11 Q. And what is your view about the ability of administrative  
12 records to provide that data?

13 A. That is a finding --

14 MR. COYLE: Objection, your Honor. This is beyond the  
15 scope of his expert testimony. He's just a rebuttal expert.

16 MR. SAINI: Your Honor, the witness is just speaking  
17 to the ability of administrative records to provide coverage,  
18 and I think this is relevant for that purpose.

19 THE COURT: I don't think it's a relevance objection.  
20 It's a scope objection.

21 Was this within the scope of the disclosures?

22 MR. COYLE: Yes. He's solely a rebuttal expert to Dr.  
23 Abowd's report on the accuracy of the nonresponse follow-up  
24 procedures.

25 MR. SAINI: The witness also provided in his expert

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Salvo - Direct

1 disclosure information about the coverage of administrative  
2 records, and this would apply to that.

3 THE COURT: Do I have that report somewhere, or can  
4 you point me where it is?

5 MR. SAINI: That would be Plaintiffs' Exhibit 289.

6 THE COURT: All right. In light of that, let's take  
7 our break. I'll take a look at the report over the break, and  
8 then I will rule on the objection when we resume.

9 I will also take a look at as many of the objections  
10 to the affidavits as possible. Just so I am clear, does the  
11 filing last night supersede the previous objections that had  
12 been filed?

13 MS. BAILEY: Yes, your Honor.

14 THE COURT: And does that include the supplemental  
15 affidavits that had been submitted over the weekend?

16 MS. BAILEY: Yes, it does.

17 THE COURT: All right. I'll try and take a look at  
18 that, and you should be prepared to address it at the end of  
19 today, hopefully. Hopefully, I'll be prepared to address it as  
20 well.

21 All right. I will see you again at 2:00, and  
22 Dr. Salvo should be on the stand at that time. Thank you.

23 (Luncheon recess)  
24  
25

Ib6Wnys4

Salvo - Direct

## AFTERNOON SESSION

2:00 p.m.

THE COURT: You may be seated.

MR. SAINI: Your Honor, I would like to withdraw the last question.

THE COURT: That's good, because I was going to sustain the objection. All right.

Dr. Salvo, you're still under oath.

Counsel, you may proceed.

BY MR. SAINI:

Q. Dr. Salvo, to close out your expert testimony, can you please just summarize again your conclusions about the impact of the citizenship question on self-response rates?

THE COURT: I think I've got that covered.

MR. SAINI: All right.

Q. Why don't we just move on, then, Dr. Salvo to your fact testimony. You are also a fact witness here today. We've covered a lot of the ground here, but I wanted to just ask you some specific questions.

How specifically are you involved in the planning of outreach efforts for the 2020 census for New York City?

A. Given my background and my experience in previous censuses, I'm usually the one who calls attention to the importance of outreach for the decennial census, and I usually start, in quotes, my campaign to alert the city officials that we need to

Ib6Wnys4

Salvo - Direct

1 begin preparations. I started this effort in August, September  
2 of '17, as I did in previous censuses, to alert City Hall and  
3 the mayor that we needed to begin preparations and to describe  
4 what steps were involved in those preparations. So I am, I  
5 think it's fair to say, a catalyst to make sure that the city  
6 officials, who may not be familiar with what happens around  
7 census, that I educate them about what needs to be done.

8 Q. Other than the census office that you testified to earlier,  
9 what other outreach efforts is the city planning for the 2020  
10 census?

11 A. The city is going to become part or is now, excuse me, part  
12 of a statewide effort called New York Counts 2020, and this is  
13 an effort that involves a large number of local community  
14 organizations, nonprofits. The city is also talking to  
15 for-profit entities, like the Association for a Better New  
16 York, about developing focus-group research and doing survey  
17 research around messaging, because we all acknowledge in our  
18 meetings that the messaging this time around is going to have  
19 to be a bit different than it's been in the past.

20 Q. You also testified earlier to the allocation of money for  
21 the 2020 census. Can you walk me through the process of how  
22 that money was allocated?

23 A. Yes, I was a bit confused earlier, and I'd like to clarify  
24 that.

25 The initial effort that I made in September or so of '17 to



Ib6Wnys4

Salvo - Direct

1 inform City Hall, I got a really good, great response. The  
2 mayor, at Gracie Mansion, in November, hosted a group of people  
3 from the Conference of Mayors, and there was a discussion about  
4 census. And then the letter came out from the Department of  
5 Justice, in December, and that triggered a substantial amount  
6 of consternation on the part of the administration.

7 Around that time, the design of, that I described to you in  
8 my earlier testimony was coming -- was being put in place, and  
9 a budget assigned for that purpose of about \$4.3 million was  
10 put in place early in 2018. And that was the initial budget.  
11 I got a bit confused because the actual budget now is 5.5  
12 million, and that occurred subsequent to the official  
13 announcement that request was being made to add citizenship to  
14 the decennial census. So the five -- the raise, the increase  
15 to 5.5 million was actually subsequent to the announcement that  
16 was made in March, where the request was actually put in by the  
17 commerce secretary to the Census Bureau.

18 Q. Just to clarify, the first allocation that occurred after  
19 the December letter, what is the December letter you're  
20 referring to?

21 A. I'm referring to a letter from the Department of Justice  
22 requesting the addition of a citizenship question to the 2020  
23 census.

24 Q. And who made the request for that allocation?

25 A. The request was made based upon discussions I had with City

Ib6Wnys4

Salvo - Direct

1 Hall about what would be needed in order to properly staff an  
2 office.

3 Q. So where does that allocation come from?

4 A. The allocation of dollars comes from the city's budget  
5 through the department of city planning.

6 Q. That's the department of city planning that you oversee?

7 A. The department, yes, that I'm part of.

8 THE COURT: Is that spending that the mayor's office  
9 has discretion to reallocate, or is it something that would  
10 require City Council approval?

11 THE WITNESS: My understanding, Judge, your Honor, is  
12 that it is an allocation that was requested from the office of  
13 management and budget by City Hall, and it's been -- it exists  
14 within my agency. That is the extent of my knowledge about  
15 that. In other words, request was made, the office of  
16 management and budget approved it, and the moneys are being  
17 allocated through my agency.

18 THE COURT: And what role, if any, did the Department  
19 of Justice letter play in the increase from 4.3 million to 5.5  
20 million in funding?

21 THE WITNESS: It was subsequent to the December letter  
22 from the Department of Justice, and the 4.3 million was  
23 subsequent to that, to the letter in December of '17. And then  
24 it was raised to 5.5 million in 2018 subsequent to the actual  
25 request to add the question on citizenship to the census.

Ib6Wnys4

Salvo - Direct

1 THE COURT: Sorry. Can we narrow this down? Do you  
2 know what date the letter from the Department of Justice  
3 requesting the addition of the question came out?

4 THE WITNESS: It was December of '17.

5 THE COURT: And do you know when Secretary Ross made  
6 the decision to add the question?

7 THE WITNESS: March of '18.

8 THE COURT: All right. Can you tell me when in  
9 relation to those the \$4.3 million in funding was allocated and  
10 then when it was increased to 5.5?

11 THE WITNESS: Sure. That was made in the beginning of  
12 2018, subsequent to the December letter. And then the 5.5  
13 million is relatively recent. It was well after the March  
14 announcement of a citizenship question.

15 THE COURT: Do you have personal knowledge with  
16 respect to what role, if any, the March announcement had in  
17 increasing that funding?

18 THE WITNESS: It intensified the resolve of City Hall  
19 to commit resources. I was in meetings where I observed that  
20 consternation and that concern, and yes, I was -- I have  
21 firsthand knowledge of those meetings.

22 THE COURT: And did you play any role in the increase  
23 in funding from the 4.3 to 5.5 million in funding?

24 THE WITNESS: Actually, Judge, no.

25 THE COURT: All right. Thank you.

Ib6Wnys4

Salvo - Direct

1 BY MR. SAINI:

2 Q. Dr. Salvo, how much of that funding is going to be spent on  
3 staff for the 2020 census office for New York City?

4 A. The plan calls for an allocation of budget on, for a  
5 director -- let me just put the numbers together, a deputy.  
6 The approximate staff costs would be a little over a million  
7 dollars, initially. And then the office will continue. The  
8 game plan is to have that office function to the summer or fall  
9 of 2020. And so those appropriations would be enacted over  
10 that time. There is about \$2 million that has been set aside  
11 of that budget for ethnic advertising.

12 That is the extent of my knowledge about, of the current  
13 plan.

14 Q. How does the allocation for 2020 compare to the city's  
15 allocation of funds to address, conduct outreach in 2010?

16 A. In 2010, there was no budget for outreach. The services --  
17 there was an outreach coordinator who then was given some  
18 staff, a couple of staff members from either different agencies  
19 or I think maybe one or two people were hired part time. It  
20 was kind of *ad hoc* in terms of how it was put together. There  
21 was no definitive budget allocation, but there was -- resources  
22 were obtained from other city agencies in order to get the word  
23 out; for example, printing from agencies that had such ability  
24 to print leaflets and posters. It was not anywhere near what  
25 we're seeing now.

Ib6Wnys4

Salvo - Cross

1 Q. And the allocation, how does it compare to, the allocation  
2 for 2020, how does it compare to the allocation for 2000?

3 A. 2000 was a similar situation. A coordinator gets  
4 appointed, in this case, from the Human Rights Commission, and  
5 that person then brings on one or two people and they make do  
6 with whatever resources they could muster from other agencies.  
7 There was no formal office in the same way.

8 Let me just add in 2010 there was a mayoral executive order  
9 establishing the census office in April of 2009, but again,  
10 that office did not have a dedicated budget number.

11 MR. SAINI: No further questions, your Honor.

12 THE COURT: All right. Cross-examination.

13 If you could for the court reporter just identify  
14 yourself for the record, please.

15 MR. COYLE: Garrett Coyle.

16 THE COURT: You may proceed.

17 MR. COYLE: Thank you.

18 CROSS-EXAMINATION

19 BY MR. COYLE:

20 Q. Good afternoon, Dr. Salvo.

21 MR. COYLE: I'd like to start with plaintiffs'  
22 demonstrative No. 20.

23 Q. Dr. Salvo, those yellow bars representing the net  
24 undercount, those are negative net undercounts, correct?

25 A. Yes.

Ib6Wnys4

Salvo - Cross

1 Q. That means it's effectively a net overcount, correct?

2 A. Yeah, except that the numbers are statistically not  
3 significant.

4 Q. And you didn't include imputations in this graph, did you?

5 A. Correct.

6 Q. You testified on direct examination that you think it's,  
7 quote, very likely that particular neighborhoods in these  
8 boroughs experienced net undercounts in 2010?

9 A. Yes.

10 Q. But you don't know of any data showing reliable estimates  
11 of components of net undercount at the subcounty level,  
12 correct?

13 A. It is not possible to use the postenumeration survey to  
14 create estimates of net undercount at the neighborhood level.

15 THE COURT: Can you tell me what you mean when you say  
16 that this doesn't include imputations?

17 THE WITNESS: There was a category of -- Judge, you  
18 may have noticed it in some of the tables -- whole-person  
19 census imputations. Those are a -- there's error associated  
20 with those, your Honor, that, in my analysis, I deal with  
21 separately from what is shown here. There are reasons that I  
22 did that. Those whole-count census imputations, the best way  
23 to put it is they're determined procedurally. I made a  
24 distinction earlier between things that you mathematically  
25 extrapolate versus things that you count, like you can actually

Ib6Wnys4

Salvo - Cross

1 count the number of procedurally the number of people who need  
2 to be substituted in their entirety. It's kind of -- I treat  
3 it separately from this, from this, what is a, really a  
4 mathematical calculation.

5 THE COURT: All right, but the census count, for  
6 purposes of apportionment, for purposes of funding and so  
7 forth, would include the imputation data, correct?

8 THE WITNESS: Yes. Yes, it would.

9 THE COURT: So this doesn't necessarily reflect what  
10 the net undercount or overcount is of the final tally, is that  
11 correct?

12 THE WITNESS: My goal was to show the components of  
13 the undercount.

14 THE COURT: OK. I appreciate that you're talking to  
15 me, but just make sure you speak into the microphone.

16 THE WITNESS: Oh, I'm sorry.

17 My goal was to show the components of the undercount,  
18 but yes, Judge, that is true.

19 THE COURT: All right.

20 Mr. Coyle, you may proceed.

21 BY MR. COYLE:

22 Q. But you think particular neighborhoods probably experienced  
23 a net undercount because those neighborhoods have higher  
24 percentages of subgroups that tend to get undercounted at the  
25 national level, right?

Ib6Wnys4

Salvo - Cross

1 A. Yes. Yes.

2 Q. I want to test out that logic. I think you testified on  
3 direct that nationwide the black population is undercounted,  
4 correct?

5 A. Yes.

6 Q. And Brooklyn has a higher percentage black population than  
7 the country as a whole?

8 A. Yes, but I was talking about neighborhoods when I talked  
9 about Brooklyn. OK?

10 Q. But Brooklyn didn't have a net undercount in 2010, did it?

11 A. Brooklyn overall, correct, did not have. Overall.

12 Q. Dr. Salvo, you testified that when self-response rates go  
13 down, the Census Bureau has to gather data from more households  
14 through nonresponse follow-up procedures, right?

15 A. Yes, generally true.

16 Q. And you think nonresponse follow-up tends to give a higher  
17 net undercount as compared to self-response?

18 A. Repeat, please.

19 Q. You think that data gathered through nonresponse follow-up  
20 procedures tends to give a higher net undercount than data  
21 gathered through self-responses?

22 A. What I said was that data gathered or the collection of  
23 data is subject to different forms of error, which could  
24 certainly result in that. I don't want to say that it's that  
25 component that's producing the undercount necessarily. I want



Ib6Wnys4

Salvo - Cross

1 to say that error gets introduced into that process from  
2 various sources that I outlined earlier.

3 Q. So you're not saying it tends to result in a net  
4 undercount?

5 A. No. It does, but I'm just saying that that is a  
6 generalization that I think may have mischaracterized this.  
7 Net undercount is determined after all the operations of the  
8 census have, have been executed -- right -- have been deployed,  
9 and then you determine whether people were missed or not.  
10 There are errors associated each stage of nonresponse  
11 follow-up, and I would not refer to those errors as undercount  
12 errors per se.

13 MR. COYLE: Let's take a look at Plaintiffs' Exhibit  
14 267, page 30, and let's pull out table 18.

15 Q. On direct examination, you were talking about this table,  
16 and in particular, you were focusing on the column correct  
17 enumerations percent, right?

18 A. Yes.

19 Q. Now, correct enumerations don't include imputations, do  
20 they?

21 A. Correct.

22 Q. And according to this table, as you go down the correct  
23 enumerations column, from the self-response, the valid returns  
24 which are self-response, to the no valid return, which are  
25 nonresponse follow-up, the correct enumeration percent goes

Ib6Wnys4

Salvo - Cross

1 down, correct?

2 A. I would consider those movements to be negligible. If  
3 you're saying that the 97.4 going down to 96.5, 96.1, I mean,  
4 those numbers are all very high.

5 Q. That's not what I'm talking about. I'm talking about the  
6 entire section of valid returns as compared to the no valid  
7 returns down below, the 88.6.

8 A. Yeah, I pointed that out earlier, that if you self-respond,  
9 you would need -- much more of a self-response involves high  
10 levels of correct enumerations than those that are gotten  
11 through nonresponse follow-up. Yes.

12 Q. But as you look at the column on the right, whole-person  
13 census imputations percent, those percentages increase  
14 correspondingly as you go from valid returns to no valid  
15 returns, correct?

16 A. Yes. I pointed that out before.

17 Q. Now, on direct examination, the judge asked for your basis  
18 for why imputation tends to result in count problems. You're  
19 not aware of any data showing that whole-person census  
20 imputations tend to systematically overcount or undercount the  
21 number of people in a household?

22 A. Whole-person census imputations, in the neighborhoods of  
23 New York City, based on what I've said earlier, you think  
24 about, in a neighborhood in New York, on the ground, going to a  
25 proxy, whatever, going to and trying to figure out whether the

Ib6Wnys4

Salvo - Cross

1 attributes of a particular household, what those attributes  
2 are, you have to ask yourself, and I've asked myself this many  
3 times when I've been in the field, does the information that I  
4 garner from the sources that I have in the field lead me to  
5 believe that what I'm dealing with here is somebody  
6 overcounting the number of people that might be in a household  
7 or that their characteristics might somehow reflect an  
8 overcount of population in a basement? I think not.

9 I think that, I've said earlier that it's likely to result  
10 in an undercount -- I'm sorry; that's wrong -- result in  
11 somebody providing an understatement of who is there. There's  
12 every reason to believe that there's -- it results in an  
13 understatement and not an overstatement. That is not a  
14 quantitative study. I admit, that is not.

15 Q. And you're not aware of any quantitative studies?

16 A. I don't know if you could put together a quantitative study  
17 on that front. This goes to --

18 THE WITNESS: If I may, your Honor?

19 A. This goes to a question I was asked about the earlier  
20 chart. When you deal with whole-household imputations, you  
21 really, truly -- you do not know what column to put them in.  
22 OK? Because you really don't know anything about those people,  
23 those basements. So in my first chart I decided not to put  
24 them in because I didn't know where to put them. And the  
25 Census Bureau is in the same boat here. The answer to the

Ib6Wnys4

Salvo - Cross

1 question is that kind of research need -- if it were to be  
2 conducted would need to be conducted by the Census Bureau. I'm  
3 not in a position to do that kind of work except to the extent  
4 that I've indicated to you.

5 MR. COYLE: Let's take a look at Plaintiffs' Exhibit  
6 410 at page 12, and let's pull up table 4.

7 Q. You testified about this table on direct examination?

8 A. Yes.

9 Q. You would agree that this table shows how often imputation  
10 is used, correct?

11 A. How often whole-person imputation is used, so it's  
12 substitution, right. Yes.

13 Q. It doesn't show that whole-person census imputation results  
14 in a net undercount, does it?

15 A. No, it does not.

16 MR. COYLE: Let's take a look at plaintiffs'  
17 demonstrative 22, which is --

18 THE COURT: Sorry. While we're doing that, can you  
19 just remind me, what's the distinction between whole-person  
20 imputation, or is there another kind of imputation here, and if  
21 so, what is it?

22 THE WITNESS: Yeah, there's imputation of individual  
23 items, your Honor, where --

24 THE COURT: Characteristics.

25 THE WITNESS: Characteristics, yeah.

Ib6Wnys4

Salvo - Cross

1 THE COURT: OK. Thank you.

2 Sorry to interrupt.

3 MR. COYLE: This is plaintiffs' demonstrative 22,  
4 which has also been marked and admitted as Plaintiffs' Exhibit  
5 667.

6 Q. This chart shows only that imputation is more heavily used  
7 in the dark red areas, correct?

8 A. Whole persons -- yes, substitution or whole-person census  
9 imputation, yes.

10 Q. It doesn't show that whole-person census imputation  
11 resulted in a net undercount in those areas, does it?

12 A. No, but, if I may, the areas that have the abundance of  
13 whole-person census imputation are also the areas which are  
14 heavily black and which the Census Bureau's data, admittedly at  
15 the national level, says that there's a high net undercount in  
16 the black population.

17 Q. That's that large group we were talking about before?

18 A. Yeah, a version of it.

19 MR. COYLE: Let's take a look at Plaintiffs' Exhibit  
20 267, at page 33.

21 Q. This goes to your testimony about proxy responses.

22 MR. COYLE: And let's take a look at table 21.

23 Q. You testified on direct examination that the column correct  
24 enumerations percent goes down when you go from household  
25 member to proxy response, correct?

Ib6Wnys4

Salvo - Cross

1 A. Yes, that is correct.

2 Q. Correct enumeration does not include whole-person census  
3 imputations, right?

4 A. It's separate.

5 Q. And that's the column on the far right?

6 A. Yes.

7 Q. And as you go from household member to proxy response, the  
8 whole-person census imputation percent goes up  
9 correspondingly --

10 A. A lot.

11 Q. -- right?

12 A. A lot.

13 Q. You talked about your work conducting the address list  
14 review?

15 A. Yes.

16 Q. On direct?

17 A. Yes.

18 Q. You and your staff are good at that, right?

19 A. Yes.

20 Q. And you submitted what are called LUCA submissions -- that  
21 stands for local update of census addresses -- in 2000 and 2010  
22 to the Census Bureau?

23 A. Yes, and now for 2020.

24 Q. And your LUCA submissions in 2000 and 2010 were successful?

25 A. Yes.

Ib6Wnys4

Salvo - Cross

1 Q. You testified that another reason you think nonresponse  
2 follow-up can lead to a net undercount is the erroneously high  
3 vacancy rates in two New York City boroughs in 2010, right?

4 A. Yes.

5 MR. COYLE: Let's take a look at plaintiffs'  
6 demonstrative 21.

7 Q. You think those erroneously high vacancy rates in 2010  
8 probably happened because the Census Bureau's nonresponse  
9 follow-up process made mistakes about the occupancy of those  
10 units, right?

11 A. I think that's fair.

12 Q. And you think those erroneously high vacancy rates probably  
13 led to a net undercount in those areas, right?

14 A. Yes.

15 MR. COYLE: Let's take a look at the net undercount in  
16 those areas.

17 Q. Oh, you testified that you think it was to the effect of  
18 65,000 people?

19 A. Yes, that is by our own estimate that we created to  
20 compensate for this problem.

21 Q. And these percentages on plaintiffs' demonstrative 21 are  
22 the change, percent change between 2000 and 2010?

23 A. Yes.

24 MR. COYLE: Let's take a look at Plaintiffs' Exhibit  
25 404.

Ib6Wnys4

Salvo - Cross

1 Q. This is one of the papers you relied on for your original  
2 demonstrative, plaintiffs' demonstrative No. 20?

3 A. Yeah, I believe so. Yes.

4 MR. COYLE: Let's take a look at page 26, and if we  
5 can blow up just the New York portion down -- that's good.

6 Q. The percent net undercount in Brooklyn, Kings County, in  
7 2000 was 0.37 percent?

8 A. Yes. Yeah.

9 THE COURT: Maybe we can highlight the Kings County  
10 line?

11 THE WITNESS: Yeah.

12 OK. I got it.

13 THE COURT: Dr. Salvo, maybe you can solve a mystery  
14 I've long pondered. Why is it called Kings County?

15 THE WITNESS: There are county names and then there  
16 are the borough names. It goes back to its history and  
17 development.

18 THE COURT: All right. You haven't been qualified as  
19 an expert on that front, so let's get back to the .3.

20 Can you highlight the line, please.

21 MR. COYLE: Can we highlight the entire line.

22 THE COURT: Thank you.

23 BY MR. COYLE:

24 Q. And since it's a positive number, that indicates a net  
25 undercount?



Ib6Wnys4

Salvo - Cross

1 A. Correct.

2 Q. The percent net undercount in Brooklyn in 2010 was negative  
3 2.61 percent, correct?

4 A. That was not statistically significant, so I don't even  
5 interpret that.

6 Q. So there was no increase in net undercount from 2000 to  
7 2010 in Kings County, correct?

8 A. I'm sorry -- OK -- no. Wait a second. Let me look.

9 I don't see a flag in this table for statistical  
10 significance on that .37. I can look at the standard error --  
11 oh, no. That .37 is pretty meaningless.

12 Q. So there's no increase?

13 A. There's no change. There's basically no net undercount in  
14 both points in time.

15 Q. No change from 2000 --

16 A. No.

17 Q. -- to 2010?

18 A. Overall for the borough, right.

19 Q. And the same thing happened in Queens, right?

20 A. OK. Queens does have its original name.

21 MR. COYLE: Can we highlight the line for Queens  
22 County as well.

23 A. Oh, God, yes. Yup, same situation, and I trust you'll find  
24 that probably for all five boroughs.

25 MR. COYLE: We can take that down.

Ib6Wnys4

Salvo - Cross

1 Q. Dr. Salvo, another reason you think nonresponse follow-up  
2 won't be sufficient in 2020 is that the Census Bureau is  
3 planning to have fewer local census offices and fewer  
4 enumerators as compared to the 2010 census, right?

5 A. That's correct.

6 Q. But there are other differences between the 2020 census and  
7 the 2010 census?

8 A. Oh, yes.

9 Q. For example, using administrative records to reduce the  
10 nonresponse follow-up workload?

11 A. Correct.

12 Q. So a straight comparison of the number of enumerators from  
13 2010 to 2020, that's not an apples-to-apples comparison?

14 A. Actually, if you assume that the workload is not going to  
15 go up, that might be true, but I expect that the workload will  
16 go up -- OK -- despite the fact that you're deploying  
17 administrative records, because the response rates,  
18 self-response is likely to go down.

19 Q. The Census Bureau also has a contingency plan in case they  
20 need more enumerators, right?

21 A. Yes, I've read about that.

22 Q. And it's your understanding that the size of that  
23 contingency budget is something like \$1.6 billion?

24 A. Yes, I believe that's the case.

25 Q. You talked on direct examination about the Census Bureau

Ib6Wnys4

Salvo - Cross

1 not hiring noncitizens as enumerators, right?

2 A. Yes, that's in my current understanding.

3 Q. Is it also your understanding that the Census Bureau has  
4 asked Congress for permission to hire noncitizens?

5 A. I'm not aware of that.

6 Q. All right. Let's talk about administrative records.

7 A. Let me add, that would be great.

8 THE COURT: Is that in reference to asking Congress?

9 THE WITNESS: Well, the fact that this is something  
10 that is being acted on is very encouraging.

11 THE COURT: All right. To be clear, he's not  
12 testifying, so you don't have any knowledge one way or another  
13 whether it is being acted on?

14 THE WITNESS: Correct. Correct.

15 Actually, I just first learned about this. I was not  
16 aware that something had actually been proposed.

17 BY MR. COYLE:

18 Q. Another reason you think nonresponse follow-up data would  
19 be less accurate than self-response data is that in 2020 the  
20 Census Bureau is using administrative records as part of its  
21 nonresponse follow-up procedures?

22 A. I think that's fair, yes.

23 Q. And one way administrative records can be used is to  
24 determine whether a particular unit is occupied?

25 A. That's correct.

Ib6Wnys4

Salvo - Cross

1 Q. And you think that's a problem because administrative  
2 records aren't always accurate?

3 A. As shown in the test data that the Census Bureau has  
4 published, I -- as I expressed earlier, I'm concerned about the  
5 accuracy of those determinations.

6 Q. But you don't know how many sources of administrative  
7 records have to show that a unit is vacant before the Census  
8 Bureau will conclude that it's vacant and remove that unit from  
9 its nonresponse follow-up, right?

10 A. I believe it's three.

11 Q. So it requires at least three sources of administrative  
12 records?

13 A. Three sources would have to come up dry, so to speak, in  
14 order to make a vacant determination.

15 Q. Are you aware that the National Academy of Sciences'  
16 standing committee reviewed the vacant-delete procedures  
17 recently?

18 A. Are you referring to the vacant-delete procedures in the  
19 2010 census?

20 Q. In the 2020 census.

21 A. My understanding is that there will not be a vacant-delete  
22 operation. Instead, you'll use administrative records to make  
23 the ultimate determination --

24 Q. Right.

25 A. -- about vacancy.

Ib6Wnys4

Salvo - Cross

1 Q. And I'm asking if you're aware of the recent review by the  
2 National Academy of Sciences' standing committee of those  
3 administrative records plans.

4 A. Of administrative records plans, but not of a vacant-delete  
5 procedure that you referred to.

6 Q. But you're not aware of the review by the National Academy  
7 of Sciences?

8 A. I have not read that review.

9 Q. OK.

10 MR. COYLE: Let's take a look at Plaintiffs' Exhibit  
11 562.

12 Q. This is the life cycle cost estimate you talked about on  
13 direct examination, right?

14 A. Yes.

15 Q. What's the date on this?

16 A. March of 2017.

17 Q. Are you aware that it was redone?

18 A. I know there were some modifications made, but the purpose  
19 of -- I know the purpose of, the stated purpose of the document  
20 has to do with cost estimates, but it doesn't change the  
21 results of the census tests that are reported in here. The  
22 reason I used this document for my expert report is because it  
23 does a good job reporting, or summarizing certainly, the  
24 results of your testing of -- in Los Angeles and Harris County,  
25 Texas, of panels that included and excluded administrative

Ib6Wnys4

Salvo - Cross

1 records.

2 MR. COYLE: All right. We can take down Plaintiffs'  
3 Exhibit 562.

4 Q. The second way administrative records will be used is to  
5 determine the number of people in a unit, right?

6 A. Yes.

7 Q. And you think that's a problem because vulnerable  
8 populations are less likely to be reflected in administrative  
9 records?

10 A. Yes, and that's by the Census Bureau's own analysis. It  
11 varies by type of administrative record.

12 Q. If administrative records aren't sufficient to close out a  
13 unit, that unit goes back into the nonresponse follow-up  
14 workload, right?

15 A. That is correct.

16 Q. And ultimately, the Census Bureau uses whole-person census  
17 imputation to fill in the data for that unit, right?

18 A. Well, when all else fails, when proxies are not available  
19 and when the admin records don't work, that's right, you go to  
20 imputation.

21 MR. COYLE: No further questions.

22 THE COURT: Any redirect?

23 MR. SAINI: Just one or two, your Honor.

24 Can we pull up PX 410. Can we go to table 4. It's on  
25 page 12.

Ib6Wnys4

Salvo - Redirect

1 REDIRECT EXAMINATION

2 BY MR. SAINI:

3 Q. Dr. Salvo, were you asked about this table on your cross?

4 A. Yes.

5 Q. And you were asked whether this table tells you anything  
6 about the net undercount resulting from imputations?

7 A. Correct.

8 Q. Is it your understanding that imputation results in net  
9 undercount?

10 A. That imputation -- the wide use of imputation is very  
11 likely to yield problems in the count.

12 Q. And how, based on this table, do you come to that  
13 conclusion?

14 A. To begin with, the Census Bureau says that 19 percent of  
15 the 6 million whole-person imputations, for that group they  
16 have a count -- I'm sorry. They do not have a count of people  
17 in those units. They say for 81 percent of 4.8 million out of  
18 5.99 million, they actually have a known count despite the fact  
19 that they know nothing about the people in those housing units.  
20 They are willing to accept a count in the field that they say  
21 is accurate 81 percent of the time.

22 My field work and the work I've done in the city of New  
23 York over now, going to be my fourth census, tells me that when  
24 you go out to, when you go out to a housing unit and you talk  
25 to proxies, which is what's involved here, and you try to

Ib6Wnys4

Salvo - Redirect

1 determine how many people are living in a basement, that it is  
2 unlikely that those counts that you derive from that procedure  
3 are going to be accurate.

4 Q. And what specific experiences are you referencing there  
5 that give you support for this conclusion?

6 A. Two sets of experiences: one set involving the research for  
7 the local update of census addresses program, where we go out  
8 and we look at housing units; and more importantly, two waves  
9 of work with the U.S. Census Bureau in the field, in Queens,  
10 where we explored the problems with the master address file and  
11 attempted to sort out who was living in what multifamily  
12 housing unit.

13 MR. SAINI: Can we pull up PX 404. Can you go to page  
14 26, and highlight the New York counties. Can you highlight  
15 Kings County, please. And can you highlight Queens as well.

16 Q. Dr. Salvo, you were asked about these two counties and  
17 their undercount rates in 2000 and 2010 during cross, is that  
18 correct?

19 A. Yes.

20 Q. How do these net undercount rates in this graph relate to  
21 the figure of 60,000 undercounted individuals that you  
22 determined from the vacancy process that you testified to  
23 earlier?

24 THE COURT: Am I correct, Dr. Salvo, the figure is  
25 65,000?



Ib6Wnys4

Salvo - Redirect

1 THE WITNESS: Yes, 65.

2 THE COURT: OK.

3 MR. SAINI: I stand corrected. 65,000.

4 Q. How does the figure 65,000 relate to these net undercount  
5 rates?

6 A. The 65,000 number that we derived are indicative of a  
7 problem in the classification of vacant housing units. OK?  
8 These measures, because of the confusion that existed in the  
9 determination and in the verification of vacant housing units  
10 in the 2010 census, and might I add the confusion that existed  
11 in other places in the country, the Census Bureau has a figure  
12 that it published essentially saying that -- remember I  
13 described earlier, your Honor, that you send a NRFU enumerator  
14 out to make a determination and then you have another person  
15 verify or get a sense of, on that second visit as to whether  
16 their determination is accurate. There's a statistic that the  
17 Census Bureau uses, 40 percent of the time nationally there  
18 were discrepant results in that determination. So that's what  
19 we're talking about with the vacant delete, the vacant-delete  
20 issue.

21 This measure is not reflected in what actually happened.

22 Q. And why doesn't it reflect what happened?

23 A. Has to do with the propensity of housing units that are  
24 checked in the operation that the Census Bureau conducts in an  
25 effort to estimate coverage. There are limitations of that, of

Ib6Wnys4

Salvo - Redirect

1 that procedure --

2 Thank you. Column head is helpful.

3 It has to do with the operations that the Census Bureau  
4 conducts in order to, the PES, as we referred to it. That  
5 methodology is likely not picking up this problem that we've  
6 detected here in New York.

7 Q. And why wouldn't that methodology pick up that problem?

8 A. Because the way these estimates are produced in the  
9 postenumeration sample, you would expect that the problem that  
10 existed and the confusion over the housing units at time 1 and  
11 time 2, as I've described it, would similarly exist in the  
12 postenumeration survey; that, in effect, just like people who  
13 may be resisting at time 1 to answer, when they get the  
14 independent visit, so to speak, in the postenumeration survey,  
15 they do not respond. Similarly, there is confusion over  
16 whether units are or are not occupied. That confusion is not  
17 only reflected in the decennial census itself; it's reflected  
18 in attempts to estimate coverage.

19 Q. Where were the 65,000 undercounted individuals in 2010  
20 located, based on your study?

21 A. Most heavily in Brooklyn. In Queens, about 10-, 12,000 was  
22 the total undercount, Queens, by our estimates, and the  
23 remainder, well over 45-, 50,000 in southern Brooklyn  
24 neighborhoods.

25 Q. And how does the undercount in those particular

Ib6Wnys4

Salvo - Redirect

1 neighborhoods relate to the net undercount in the borough as a  
2 whole?

3 A. The net undercount of the borough does not reflect what  
4 happened in those neighborhoods. That is one of the important  
5 points I feel needs to get across, is that neighborhood based,  
6 these neighborhood-based problems are frequently not reflected  
7 in the borough live data.

8 MR. SAINI: No further questions.

9 THE COURT: Are we good?

10 MR. COYLE: Yes. No recross, your Honor.

11 THE COURT: All right.

12 Dr. Salvo, thank you very much. You may step down.

13 THE WITNESS: Your Honor, thank you.

14 THE COURT: And get back to your job.

15 (Witness excused)

16 THE COURT: Plaintiffs' next witness.

17 MS. GOLDSTEIN: Plaintiffs call Dr. Hermann Habermann.

18 THE COURT: All right.

19 HERMANN HABERMANN,

20 called as a witness by the plaintiffs,

21 having been duly sworn, testified as follows:

22 THE COURT: All right. Counsel, you may proceed.

23 MS. GOLDSTEIN: My name is Elena Goldstein for the  
24 state of New York plaintiffs.

25 Your Honor, before we begin, we have a number of

Ib6Wnys4

Habermann - Direct

1 exhibits that relate to Dr. Habermann's declaration. Would you  
2 like to go through those first or through defendants objections  
3 to his affidavit?

4 THE COURT: I neglected to do this yesterday because I  
5 got caught a little by surprise, and just to explain, I had  
6 been operating on the belief that the expert witnesses were  
7 testifying live, which is why I didn't think there was an  
8 affidavit for Dr. Van Hook yesterday, but thank you for  
9 correcting that misimpression.

10 Why don't we do it the way I would normally do it,  
11 which is present his declaration to him, he can authenticate  
12 it, confirm that there's nothing he needs to change or correct,  
13 and then you can offer that. We'll take up the objections  
14 paragraph by paragraph, and then you can offer other exhibits  
15 pursuant to the affidavit. All right?

16 MS. GOLDSTEIN: Yes, your Honor.

17 DIRECT EXAMINATION

18 BY MS. GOLDSTEIN:

19 Q. Dr. Habermann, you have a document in your hands. Do you  
20 recognize that document?

21 A. I do.

22 Q. What is that document?

23 A. It's my affidavit.

24 Q. And to the best of your knowledge, is there anything that  
25 you need to change or update in that affidavit?

Ib6Wnys4

Habermann - Direct

1 A. I do need to change something.

2 Q. Can you explain?

3 A. I quoted from the fifth edition of the Principles and  
4 Practices from the National Academy of Science, but I believe I  
5 referenced the sixth edition.

6 THE COURT: Can you tell us what paragraph you're  
7 referring to.

8 THE WITNESS: That's a good question.

9 MS. GOLDSTEIN: Your Honor, with permission, may I  
10 walk him through this?

11 THE COURT: Sure.

12 MS. GOLDSTEIN: Thank you.

13 Can you please pull up PX 355.

14 Q. Do you recognize that document on the screen?

15 A. Yes.

16 Q. What is it?

17 A. That is an edition of the Principles and Practices, and it  
18 is the sixth edition.

19 Q. And did you rely on the fifth or the sixth edition when you  
20 wrote your report?

21 A. At times, I'm sure I read from both editions. I had them  
22 both on my desk. I even have some earlier editions on my desk.

23 Q. Statisticians keep all sixth editions on their desks, I  
24 think.

25 A. Yes, I think we do.

Ib6Wnys4

Habermann - Direct

1 Q. OK, but you said you are familiar with both the fifth and  
2 the sixth editions?

3 A. Yes.

4 Q. Is that correct?

5 A. Yes.

6 Q. And are they substantially similar?

7 A. Yes.

8 Q. And PX 355 is the sort of material on which experts in your  
9 field regularly rely?

10 A. Yes.

11 MS. GOLDSTEIN: Can I please call up Dr. Habermann's  
12 report, please, to paragraph 72.

13 Q. In paragraph 72, you are quoting from what we now  
14 understand is the fifth edition of Principles and Practices for  
15 a Federal Statistical Agency, and you wrote: "To be credible  
16 and unhindered in its mission, a statistical agency must  
17 maintain a widely acknowledged position of independence from  
18 undue external influences. It must avoid even the appearance  
19 that its collection, analysis, or reporting processes might be  
20 manipulated for political purposes or that individually  
21 identifiable data collected under a pledge of confidentiality  
22 might be turned over for administrative, regulatory, or law  
23 enforcement uses."

24 Did I read that correctly?

25 A. Yes.

Ib6Wnys4

Habermann - Direct

1 Q. And now let's turn to the corresponding page of Plaintiffs'  
2 Exhibit 355.

3 MS. GOLDSTEIN: Can we go to page 24 of that exhibit.

4 Q. And let me read the corollary sentence: "To be credible,  
5 trustworthy and unhindered in its mission, a statistical agency  
6 must maintain a position of independence from external undue  
7 external influences even as it proactively seeks input on its  
8 programs and priorities. It must avoid even the appearance  
9 that its collection, analysis, or dissemination processes might  
10 be manipulated for political or partisan purposes, or that  
11 individually identifiable data collected under a pledge of  
12 confidentiality might be turned over for administrative,  
13 regulatory, or law enforcement uses."

14 Did I read that correctly?

15 A. Yes.

16 Q. And did anything in that sentence of PX 355, the sixth  
17 edition of Principles and Practices for a Federal Statistical  
18 Agency, change your opinion?

19 A. No.

20 Q. Do you have any other changes in your affidavit that you'd  
21 like to make, Dr. Habermann?

22 A. No.

23 MS. GOLDSTEIN: Plaintiffs would like to offer  
24 Dr. Habermann's direct testimony into evidence.

25 THE COURT: All right. And I take it that Dr.

Ib6Wnys4

Habermann - Direct

1 Habermann's testimony, the objections are the ones that have  
2 been set forth at docket No. 463, not submitted last night. Is  
3 that correct?

4 MR. EHRLICH: That's correct, your Honor.

5 THE COURT: All right. With respect to those  
6 objections, I think I've told you not to really sweat relevance  
7 objections, because I'll only consider evidence if it is  
8 relevant or, in that regard, if either harmless -- that is to  
9 say, irrelevant or harmless -- or relevant, so those are  
10 overruled with that caveat.

11 I think similarly I will not rely on Dr. Habermann's  
12 testimony to the extent that it either opines on ultimate  
13 issues that are for me to decide or to the extent that it  
14 references legal principles or the law. For example, I think  
15 paragraphs 24 and 25 are good examples of where that's really  
16 my province, not the witness's province. In that regard, the  
17 objection is well-taken, but there, too, I think we can  
18 probably rest with my assurance to you that I will not rely on  
19 Dr. Habermann for those purposes.

20 With those caveats, the objections are overruled, but  
21 that's not to say that they're without merit.

22 MR. EHRLICH: Thank you, your Honor.

23 THE COURT: All right. There were some exhibits to  
24 offer in conjunction with Dr. Habermann's affidavit.

25 MS. GOLDSTEIN: Yes, your Honor.



Ib6Wnys4

Habermann - Direct

1 Plaintiffs offer Exhibit 354.

2 Can we pull that up, please.

3 Your Honor, the Court will take judicial notice of  
4 this OMB statistical policy directive No. 1.

5 THE COURT: Any objection?

6 MR. EHRLICH: No objection.

7 THE COURT: Admitted.

8 (Plaintiffs' Exhibit 354 received in evidence)

9 MS. GOLDSTEIN: The next exhibit is PX 355 that we  
10 were just discussing.

11 Your Honor, this is a publication by the National  
12 Academy of Sciences, which is a quasi-public organization.  
13 Courts have held that you may take judicial notice of National  
14 Academy of Sciences publications. I'm happy to provide case  
15 law to that effect.

16 THE COURT: Any objection?

17 MR. EHRLICH: Your Honor, we would object on 401, 403,  
18 802, and 805 grounds but would not object for 703 purposes.

19 THE COURT: Do I need to take it for anything more  
20 than 703 purposes?

21 MS. GOLDSTEIN: Your Honor, we believe that the Court  
22 may take judicial notice of this and can take it for all  
23 purposes, but to the extent the Court only wishes to take it  
24 for 703, we will --

25 THE COURT: I assume it's being offered, it's not as

Ib6Wnys4

Habermann - Direct

1 if it's being offered for the fact that these are well  
2 established and accepted standards, correct?

3 MS. GOLDSTEIN: Yes, your Honor.

4 THE COURT: In that regard, it doesn't strike me as a  
5 hearsay problem. Is there any dispute that I can consider them  
6 for that purpose?

7 MR. EHRLICH: No issue with that, your Honor.

8 THE COURT: All right. Admitted with that  
9 understanding.

10 (Plaintiffs' Exhibit 355 received in evidence)

11 THE COURT: Next.

12 MS. GOLDSTEIN: Exhibit 358.

13 THE COURT: Any objection to that?

14 MR. EHRLICH: Yes, your Honor. 401, 403, and then  
15 hearsay, and given the lack of marking, I think a 901 objection  
16 here. Again, no objection on 703 grounds, however.

17 MS. GOLDSTEIN: I would note, No. 1, that there was no  
18 901 objection in defendants' original objections to this. If  
19 you turn to the last page, it is clear that this is a  
20 government-issued document. This appears on the Census  
21 Bureau's website, and the Court may take judicial notice of it.  
22 This is an official agency, a committee comprised of heads of a  
23 number of government agencies.

24 THE COURT: All right. It is admitted.

25 (Plaintiffs' Exhibit 358 received in evidence)

Ib6Wnys4

Habermann - Direct

1 THE COURT: Next.

2 MS. GOLDSTEIN: PX 360. This is statistical policy  
3 directive 2. This is another governmental publication that the  
4 Court may take notice of.

5 THE COURT: Any objection?

6 MR. EHRLICH: No objection.

7 THE COURT: Admitted.

8 (Plaintiffs' Exhibit 360 received in evidence)

9 MS. GOLDSTEIN: PX 362. This is an office of  
10 management and budget instructions for requesting OMB review  
11 under the Paperwork Reduction Act. This is, again, a document  
12 that the Court may take notice of.

13 THE COURT: Any objection?

14 MR. EHRLICH: No objection.

15 THE COURT: Admitted.

16 (Plaintiffs' Exhibit 362 received in evidence)

17 MS. GOLDSTEIN: PX 374. This is the subjects planned  
18 for the 2020 census and American communities survey.

19 THE COURT: Any objection?

20 MR. EHRLICH: No objection, your Honor.

21 THE COURT: Admitted.

22 (Plaintiffs' Exhibit 374 received in evidence)

23 MS. GOLDSTEIN: PX 539. This is committee on national  
24 statistics letter report on the 2020 census on which  
25 Dr. Habermann relied. This is another publication for the

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Habermann - Direct

1 National Academy of Sciences that the Court may take notice of.

2 THE COURT: Subject to the understanding discussed  
3 before, any objection?

4 MR. EHRLICH: Subject to those understandings, your  
5 Honor, no objection.

6 THE COURT: All right. Admitted subject to those  
7 understandings.

8 (Plaintiffs' Exhibit 539 received in evidence)

9 THE COURT: Anything else?

10 MS. GOLDSTEIN: That is all, your Honor.

11 THE COURT: All right. For future reference, I think  
12 it would be helpful where you anticipate doing that for you  
13 guys to confer ahead of time and we can streamline it. You can  
14 offer without objection whatever exhibits there's no  
15 disagreement with respect to and then we can focus on those  
16 where there are disagreements.

17 MR. EHRLICH: Understood, your Honor.

18 THE COURT: With that, we'll proceed to  
19 cross-examination.

20 (Continued on next page)

IB6sNYS5

Habermann - Cross

1 CROSS-EXAMINATION

2 BY MR. EHRLICH:

3 Q. Good to see you again, Dr. Habermann.

4 A. Good afternoon.

5 Q. Thank you for coming to New York. I just have some quick  
6 questions for you.

7 Your first opinion in this case is that there is  
8 insufficient justification of the need for a citizenship data  
9 at the block level, is that right?

10 A. Correct.

11 Q. And at paragraph 21, you say that the Census Bureau can  
12 provide estimates of block level data from block group data by  
13 using statistical modeling techniques, right?

14 A. I believe that is correct, yes.

15 Q. But statistical modeling techniques have uncertainty  
16 associated with them, is that correct?

17 A. Yes, sir.

18 Q. So if you needed to have citizenship data at the block  
19 level and you could understand how to do that through a direct  
20 observation, then the model might not be as good as that direct  
21 observation, is that right?

22 A. I think there are different ways to get at the needs of the  
23 user, and this is one of the reasons you sit down and have  
24 conversations with the user, to understand exactly what their  
25 needs are and the best way to do it. So there are alternatives

IB6sNYS5

Habermann - Cross

1 that could be used in addition to modeling. I would agree with  
2 that.

3 Q. I want to discuss your fourth opinion just for a moment.  
4 Your fourth opinion is that there is no need for -- excuse  
5 me -- there is a need for pretesting of the citizenship  
6 question, including the impact on response and quality, is that  
7 right?

8 A. Yes, sir.

9 Q. But with respect to testing questions on surveys, you would  
10 agree that there are always constraints on budget, resources  
11 and time, for example?

12 A. I'm not trying to be difficult here. I would agree that  
13 there are always problems with budget and time. That is  
14 correct.

15 Q. OK. By the way, the citizenship question to be used on the  
16 2020 census is the same citizenship question that currently  
17 appears on the ACS, right?

18 A. Yes.

19 Q. You would agree that importing a question from one survey  
20 to another survey necessarily means using that question in  
21 different contexts, is that right?

22 A. Yes.

23 Q. If I say OMB, you know it means the Office of Management  
24 and Budget?

25 A. I do.

IB6sNYS5

Habermann - Cross

1 Q. You're familiar with that organization?

2 A. I am.

3 Q. Does OMB have the authority to regulate the form and  
4 content of the questions on the 2020 census?

5 A. My understanding is, under the Paperwork Reduction Act,  
6 yes, they have that authority.

7 Q. Are you familiar with OMB statistical policy directive too?

8 A. I am.

9 Q. Is it fair to say that OMB statistical policy directive to  
10 sets forth guidelines for federal statistical agencies in  
11 conducting surveys?

12 A. It does.

13 Q. Is it fair to say that the Census Bureau's statistical  
14 quality standards are the Census Bureau's method of  
15 implementing and augmenting OMB statistical policy directive  
16 too?

17 A. I am not sufficiently aware of the Census Bureau to say how  
18 well they follow the OMB standards.

19 Q. Do you remember testifying at a deposition in this case on  
20 October 12, 2018?

21 A. Yes.

22 Q. When you testified at that deposition, you swore to tell  
23 the truth?

24 A. I did.

25 Q. And you did tell the truth, right?

IB6sNYS5

Habermann - Cross

1 A. I certainly thought I did, yes.

2 Q. Could we look at the deposition transcript, page 24,  
3 lines 8 through 13.

4 Question, do you know if the Census Bureau's statistical  
5 quality standards were the Census Bureau's method of  
6 implementing and augmenting OMB's statistical policy directive  
7 2?

8 A. And I said yes then, and for these purposes, I would say  
9 yes again.

10 Q. OK. Thank you.

11 Is it fair to say you have enormous respect for the Census  
12 Bureau and the people that work there?

13 A. Absolutely.

14 Q. So you believe that the Census Bureau has the ability to  
15 take the OMB standards and turn them into Census Bureau  
16 standards, is that fair to say?

17 A. I think they have the capability. Whether that is always  
18 done is a separate matter.

19 Q. Could the OMB order further testing of the 2020 census  
20 questionnaire before approving it for use in the 2020 census?

21 A. Yes.

22 MR. EHRLICH: No further questions, your Honor.

23 THE COURT: Any redirect?

24 MS. GOLDSTEIN: Just a bit, your Honor.

25 REDIRECT EXAMINATION



IB6sNYS5

Habermann - Redirect

1 BY MS. GOLDSTEIN:

2 Q. Dr. Habermann, you were asked about time constraints.

3 Is there anything unusual about the time constraints  
4 presented by the citizenship question?

5 A. I'm not sure I understand your question.

6 Q. The Census Bureau operates under budgetary and time  
7 constraints all the time you testified, correct?

8 A. Yes.

9 Q. Was there anything unusual about the time constraints under  
10 which the Census Bureau operated with respect to the  
11 consideration for the citizenship question?

12 A. The Census Bureau in 2014 began its content review process  
13 for the decennial census, and I think there was more than  
14 enough time, if a citizenship question were to be proposed,  
15 that it could have been done before December of 2017, which  
16 then put a time constraint on, yes.

17 Q. So the time constraints -- withdrawn.

18 Mr. Ehrlich asked you about direct observation versus  
19 modeling, correct?

20 Are there any down sides to using direct observation to  
21 obtain citizenship data in this case?

22 A. Yes.

23 Q. Can you explain to the court?

24 A. The Census Bureau has pointed out that in its own research,  
25 when one asks a question of a noncitizen, if they're a citizen,

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Habermann - Redirect

1 they can expect an incorrect answer up to 30 percent of the  
2 time.

3 Q. So can you explain, Dr. Habermann, how that affects your  
4 opinion that direct observation has down sides for gathering  
5 citizenship data?

6 A. Well, for one, when you get errors like that, you're going  
7 to have to use some modeling in any event when you get those  
8 kinds of large errors of 30 percent. And I'll go back to it  
9 depends upon the use that the Department of Justice needed and  
10 what those policy uses were, whether or not modeling -- and  
11 modeling is a broad area, there are different kinds of  
12 modeling -- one sits down and tries to discuss it, which would  
13 be the best way to do it.

14 Q. Mr. Ehrlich also pointed out that the proposed citizenship  
15 question is imported from the ACS, is that right?

16 A. Yes.

17 Q. Does the fact that the citizenship question is imported  
18 from the ACS change your opinion regarding the necessity of  
19 test?

20 A. I think I pointed you out in my report that it is always  
21 important if a question is imported, but there were a number of  
22 other issues beyond just the import of a question which had to  
23 do with whether or not one needed to do testing of that  
24 question. Both of the process, but also for the quality of the  
25 decennial census.

IB6sNYS5

Habermann - Redirect

1 Q. Can you explain?

2 A. Some of those had to do, for example, the Center for Survey  
3 Measurement within the Census Bureau had admittedly anecdotal  
4 evidence from its enumerators that the political climate was  
5 such that there was great concern among the Center for Survey  
6 Measurement that response rates would be difficult because of  
7 that, and they wanted to have testing of the question,  
8 including instructions for enumerators, instructions on the  
9 question on what to do if they got pushback.

10 Not everybody at the Census Bureau agreed with the Center  
11 of Survey Measurement and its anecdotal, and it is not  
12 determinative in itself, but it also was a position taken by  
13 the six directors who thought, essentially, the census would be  
14 going blind if it put that question on -- I think that is  
15 pretty much a quote -- without adequate testing.

16 Also, I think we've talked about you introduced the  
17 Committee On National Statistics letter, and they pointed out  
18 that the census is much more than just the ACS. It is not  
19 simply one question on the census, but there is paper  
20 questions, there is electronic questions, there are language  
21 questions, there are a set of instructions that one is going to  
22 have to understand how to do to give the NRFU enumerators and  
23 that testing would be required in order to do that. Those  
24 kinds of issues.

25 MS. GOLDSTEIN: Thank you, Dr. Habermann.

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Habermann - Redirect

1 No further questions.

2 THE COURT: All right. I have a couple questions  
3 myself, and then I'll see if there is anything further from  
4 either side.

5 In paragraph 25 of your affidavit, you make reference  
6 to the statutory requirement that the Census Bureau notify  
7 congress of the subject matters that will be addressed or asked  
8 about on the census questionnaire.

9 In your experience working at the Census Bureau,  
10 what's your understanding of how that report is used or the  
11 purpose of that report?

12 THE WITNESS: My understanding -- it's been a while  
13 since I was at the Census Bureau. My understanding is that  
14 congress wants to know what does the Census Bureau expect to  
15 put on the census, the census being so important, such a  
16 fundamental issue that they want to say, what are you going,  
17 what is the intention of both the subject matter, and then the  
18 questions, two separate things, on the decennial census.

19 It would also give the congress a chance to opine  
20 about if the Census Bureau says we are going to put question X  
21 on or subject X, it gives the congress a chance to opine on  
22 that decision.

23 THE COURT: Were you at the Census Bureau -- I see you  
24 were there until 2007.

25 Were you there when that report was submitted with

IB6sNYS5

Habermann - Redirect

1 respect to the 2010 census?

2 THE WITNESS: I believe I was.

3 THE COURT: All right. Do you recall if there was any  
4 feedback, either from congress or from outside --

5 THE WITNESS: There was no question at that time, that  
6 I remember.

7 THE COURT: Got you.

8 Anything further from either side?

9 MR. EHRLICH: Nothing further from defense,  
10 your Honor.

11 MS. GOLDSTEIN: No, your Honor.

12 THE COURT: All right, Dr. Habermann. You may step  
13 down. You're excused. Thank you for joining us.

14 (Witness excused)

15 All right. Counsel, is this the moment where you're  
16 going to tell me you don't have any other witnesses today?

17 MR. COANGELO: Your Honor, unfortunately, despite our  
18 best efforts, we have no further witnesses for today.

19 THE COURT: All right. Again, I'm not happy to hear  
20 that, but I will not enforce my rule, given the fluctuations  
21 and issues with respect to whether you needed to call the fact  
22 witnesses and the like.

23 I'm prepared to address the objections with respect to  
24 most of the witnesses as to whom there are objections. There  
25 are two that I hadn't quite gotten to during the break, those

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Habermann - Redirect

1 two being Gregory Lucyk and Jacqueline Tiema-Massie.

2 I can go through the remainder, and hopefully that  
3 will help determine whether there is a need to call any of  
4 these witnesses. Now, first, I'll go through them in order.

5 With respect to Mr. Altschuler, what I said earlier  
6 with respect to relevance objections applies here too. If it  
7 is irrelevant, I will not consider it. In light of that, the  
8 objection is overruled.

9 Now, with respect to Mr. Breitbart -- give me one  
10 moment.

11 All right. With respect to Mr. Breitbart, I think  
12 there are some paragraphs which, again, sort of stray into  
13 descriptions of the law, which is my prerogative, not the  
14 witness's. So paragraphs three and four and nine, for example,  
15 I think go a bit too far. Again, suffice it to say, I won't  
16 consider the witness's testimony on those issues. I will,  
17 however, sustain the objections in part, namely with respect to  
18 paragraph eight in its entirety, and with respect to the  
19 opinion portion of paragraph ten, that is, the portion at the  
20 end beginning with the differential undercount of noncitizens,  
21 all of paragraph 11. And, again, what I would describe as the  
22 opinions offered in paragraph 12, that is the first sentence  
23 also beginning a differential undercount, and then the end  
24 beginning with "consequently, if inclusion of."

25 Now, I don't think that those are objections that can

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Habermann - Redirect

1 be cured with the witness's presence, so I suspect that it is  
2 what it is, and we can proceed from there.

3 Now, next is Ms. Cullinane. The objection to the  
4 sentence in paragraph four is sustained. The objection to  
5 paragraph ten is overruled.

6 With respect to Mr. Escobar, Ms. Freedman, Mr. Garcia,  
7 Ms. Haney, Mr. Harmon, April Ms. Pierce, the objections are all  
8 overruled.

9 As I said, I have not had an opportunity to look at  
10 the Lucyk and Tiema-Massie affidavits, but given that we are  
11 ending early, I'll do that this afternoon, and if appropriate,  
12 I'll enter an order giving you my rulings on those, and you can  
13 decide what implications that has going forward.

14 Any questions?

15 MR. GARDNER: Not from the government, your Honor.

16 MR. COANGELO: Your Honor, for the plaintiffs, I think  
17 the only question is, as for the affidavits for which you have  
18 overruled the objections in full, may the plaintiffs go ahead  
19 and file those on the docket of this action?

20 THE COURT: My understanding is they are now admitted.  
21 Not only may you, you must.

22 MR. COANGELO: Thank you, your Honor.

23 THE COURT: All right. I have a couple housekeeping  
24 matters.

25 Anything you guys want to or need to discuss?

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Habermann - Redirect

1 MR. GARDNER: Your Honor, one quick question.

2 I know earlier you had mentioned a notion of  
3 potentially having closing arguments and the timing of those.

4 The government just wanted to see if you had given any  
5 more thought as to whether you wanted to have them, and if so,  
6 whether it would be during the trial time or after post-trial  
7 briefing?

8 THE COURT: So that is actually one of the issues that  
9 I wanted to raise myself, in part because it sounded from  
10 Mr. Colangelo's estimation of our schedule that we would  
11 probably end up finishing around next Wednesday or so.

12 I think if I remember the schedule that I had set  
13 correctly, that your post-trial initial briefing, proposed  
14 findings of fact, and conclusions of law are due ten days after  
15 the close of trial.

16 I wanted to flag that because, if my math is correct,  
17 that would basically put you right after the Thanksgiving  
18 holiday, and normally I am averse to ruining attorneys'  
19 holidays, but as you well know, I have a strong belief that  
20 time is of the essence in this litigation. In that regard, I  
21 really do want to keep things moving so I can render a decision  
22 in a timely fashion.

23 You have large teams. I would think that you could be  
24 using the time -- particularly when we are ending early today  
25 and I gather we may be ending early tomorrow -- to begin



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Habermann - Redirect

1 working on those documents. All of which is to say, we can  
2 discuss it at the end of trial, based on when that occurs, but  
3 right now, you should not assume that you will get more time in  
4 that regard. Plan accordingly.

5 What I was thinking would be most helpful would be to  
6 end trial, have you make your initial submissions, and then  
7 actually have closing argument, or oral argument as the case  
8 may be, after I've had an opportunity to review those briefs  
9 and, perhaps, even before your reply briefs on the theory that  
10 you could then focus on issues that I'm most interested in, and  
11 I could share that with you at that time.

12 I think that would be more helpful to me and probably  
13 allow me to sort of get my mind wrapped around the record,  
14 rather than having it at the conclusion of trial next week.

15 Does that make sense to everyone?

16 MR. GARDNER: That's fine for the government,  
17 your Honor.

18 MR. COANGELO: Yes, your Honor, for the plaintiffs.

19 Thank you.

20 THE COURT: All right. Again, we can revisit the  
21 Thanksgiving prospects when we have a better sense of when  
22 trial is ending, but hopefully you can plan ahead and,  
23 therefore, you'll be able to stick with our schedule and it  
24 won't ruin your holidays. But I wanted to flag that.

25 All right. I think just a couple housekeeping

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Habermann - Redirect

1 matters. You're supposed to be submitting, I think, a revised  
2 list of the exhibits as to which there are no objections, 401  
3 objections, 403 objections, and 401 and 403 objections. So  
4 just a reminder to do that so that we have a complete record on  
5 that front.

6 Second, reminder to docket what you're supposed to  
7 docket, including the affidavits that have now been admitted.  
8 There were a couple demonstratives shown during the testimony  
9 today, and you should e-mail those to me so that I have those.

10 You will be hopefully resolving any remaining issues  
11 with respect to the two videos so that you can then submit  
12 those to me and I can view them, and to the extent that the  
13 press or the like are interested in them, they can obtain them  
14 as well.

15 Then remind me your lineup for tomorrow. We have two  
16 witnesses, both testifying by affidavit, is that correct,  
17 Mr. Colangelo? O'Hare and Reamer?

18 MR. COANGELO: That is right, your Honor.

19 Dr. O'Hare and Dr. Reamer, for both of them, you have  
20 their written testimony already.

21 THE COURT: All right. Are there objections to those?

22 There seemed to be in the initial filing from  
23 defendants, but have those now been withdrawn, or should I  
24 review those objections?

25 MS. FEDERIGHI: Your Honor, Carol Federighi for

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Habermann - Redirect

1 defendants.

2 I don't recall the substance of the objection. If we  
3 can just address that tomorrow morning?

4 I don't think I have -- wait, I do have the filing  
5 here.

6 THE COURT: There doesn't seem to be any objection to  
7 Reamer. But with respect to Dr. O'Hare, there is two sentences  
8 in paragraphs 9 and 13 --

9 MS. FEDERIGHI: Yes.

10 THE COURT: -- which I think we can take up tomorrow.  
11 If you want to just let me know tomorrow if those are  
12 still objections, you can, and we'll go from there.

13 MS. FEDERIGHI: Sure.

14 THE COURT: Anything else from either side?

15 MR. COANGELO: Nothing for the plaintiffs, your Honor.

16 MR. SAINI: Nothing from the government, your Honor.

17 THE COURT: All right. In that case, ending earlier  
18 than expected, I'll see you tomorrow at or shortly after nine  
19 o'clock, and have a good afternoon and evening.

20 Thanks.

21 (Adjourned to November 7, 2018, at 9:00 a.m.)  
22  
23  
24  
25

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